

Help Wanted: Making a Difference in Health Care Part 2

Employment Development Department
Labor Market Information Division
Information Services Group
Occupational Research Unit

Laurie Achtelik, Research Analyst
Mike Davis, Research Analyst
Linda Hax, Research Analyst
Janet Peters, Research Manager
Cindy Rose, Research Analyst
Jenifer Taylor, Research Analyst

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A CLOSER LOOK USING O*NET

O*NET defined

Sections Five through Nine of this report examine the five focus health care occupations in the following six areas:

- Interests
- Work Values
- Skills
- Knowledge
- Abilities
- Work Activities

The analysis is based on data from the Occupational Information Network (O*NET) 4.0, developed and maintained by the U.S. Department of Labor (DOL).

The O*NET database uses a common language to describe over 950 occupations. Each O*NET occupation has over 400 numerically rated worker or occupation descriptors covering such characteristics and requirements as skills, knowledge, and abilities. O*NET ratings were based on a combination of existing occupational data and assessment results from workers and experts in the occupational field.

Advantages of a common language

O*NET's common language and standard measurements that describe and rate occupational characteristics can be used to:

- Compare two occupations and identify measurable gaps in job requirements.
- Improve communication of expectations and needs between employers and training providers.
- Build vocabulary for jobseekers and workers to describe their top skills and abilities to employers in applications, resumes, and interviews.
- Facilitate human resources functions, such as developing job orders, writing position descriptions, and aligning training with current workplace needs.
- Assist vocational counselors to assess individual's characteristics and preferences to make satisfying person-to-job matches.

O*NET scales

The principal ways in which work characteristics and requirements are ranked by O*NET are Importance, Level, and Extent.

- *Importance Scales* measure the significance of a skill for an occupation.
- *Level Scales* measure the degree of competence needed to perform the job.
- *Extent Scales* measure the extent to which a given interest or work value may be realized in the occupation. Extent scales and their use with work values and interests are explained in Section Five, “Heart of Retention.”

Importance scale

The O*NET Importance Scales measure the significance of a skill for an occupation and suggest the degree of negative consequence should the worker lack that skill.

EXHIBIT 4.1 – Importance Anchor Scale

Importance Scale

100 = Extremely Important

75 = Very Important

50 = Important

25 = Somewhat Important

0 = Not Important

While one skill can be equally important in a variety of occupations, the level of skill needed in those occupations can differ dramatically. One way to illustrate this is to consider the skill of writing in the health care setting.

According to O*NET ratings, RNs need to write at a level somewhat higher (ten points) than MAs even though the skill is rated more important to job performance for MAs than for RNs. This suggests that the degree of negative work performance would be greater for MAs should the worker not be able to perform the skill on the job, as they schedule patients, make notes on medical records, and prepare insurance claim forms.

Another example that appears across all industries is the Cashier, who needs mathematical skills at a relatively low level (43); however, the importance of this skill for the job is rated “Very Important”, 79 on the 0-100 Importance Scale.

Level scale The level scale measures the degree of competence needed for a job element. Each level scale is benchmarked at various anchor points with tasks to illustrate increasing levels of difficulty.

EXHIBIT 4.2 – Level Scale Benchmark Example

Level Scale

Example: Psychology

- 100 = Requires knowledge of complex human behavior, advanced methods of research, evaluation, and treatment
- 91 = Treating a person with a severe mental illness
- 78 = Developing a job performance appraisal system
- 54 = Understanding the impact of alcohol on human responses
- 32 = Soothing a sad friend
- 25 = Monitoring several children on a playground

Skills gap The term *skills gap* most commonly describes the difference between what skill levels employers require and what skill levels candidates possess. In this study, however, the term skills gap takes on a very different meaning.

A *skills gap* in this report describes the mathematical difference in skill level between two discrete occupations: a “current” occupation (in this instance, a focus health care job) and a “target” occupation—Registered Nurse.

Modified fit formula For purposes of this report and to aid in gap analysis, an Occupational Fit Index originally devised by the U.S. Department of Labor was modified and the following steps used to determine occupational fit:

- The top ten Important and top ten Level elements for RN were selected and compared to individual ratings of selected allied health occupations.
- An “Overall Fit” was calculated by totaling and averaging individual element gaps reported in each section (skills, knowledge, abilities, work activities) between the target (RN) and four focus health occupations.

A detailed description of the method of calculating skills fit can be found in Appendix G of this report.

Limitations of O*NET

While O*NET offers a host of possibilities to those involved in career development and training programs, it is not a panacea in career ladder development. Limitations of O*NET include the following:

- Occupations in O*NET are somewhat broad and do not allow for specificity or industry differences. O*NET ratings reflect the *average* requirement within a job classification. For instance, in the case of RNs, nurses who work in the research sector will need writing skills at a much higher level than reported by O*NET, compared to those who specialize in surgical nursing where the average writing level would be sufficient.
- The characteristics in O*NET reflect *transferable* requirements or worker attributes. Job-specific tasks in O*NET do not share a common language that allows comparative analysis, and would require extensive analysis to identify gaps.
- During the course of this study, the validity of several O*NET ratings were questioned by these authors, particularly in the LVN classification under cognitive abilities. Those ratings have been flagged in this report.

The DOL, notified of the O*NET Ability ratings in question, is doing a reassessment of the NA, LVN, and RN classifications in O*NET and making rating changes as determined.

Untapped candidate pools

Recruiters and employers can use the O*NET (<http://online.onetcenter.org>), to discover other potential recruitment sources for health care occupations.

The O*NET data provide clues about what other occupations share comparable trait levels with RNs, from which to solicit new recruits. For example, presently, 5.4 percent of the nation's 2.7 million nurses are male; in some suburban hospitals, the rate is half that. Added to that is the small number of current male baccalaureate nursing students: 9.4 percent.¹ Dissatisfied or unemployed workers in traditionally male occupations may be strong candidates for RN career ladder programs.

Comparable Top Skills

The following male-dominated occupations require at least average levels of reading comprehension, active listening, instructing, service orientation, and speaking skills (top skills needed by RNs) and may be untapped recruiting pools.

**Untapped
candidate
pools
(continued)**

Numbers in parentheses indicate California employment figures in 2000:²

- Probation Officers (12,200)
 - Respiratory Therapists (8,800)
 - Clergy (8,700)
 - Dispensing Opticians (4,300)
-

**RN interests
and work
values shared
by many
outside health
care**

Comparable Interests and Work Values

In addition to health care workers, there are other workers throughout the labor market who share the same interests (social, investigative, and realistic) and work values (achievement, and relationships) that are characteristic to RNs. These workers may be prime candidates for assessment, recruitment, and training:

- Elementary School Teachers (179,000)
 - Postsecondary Teachers (106,600)
 - Computer Support Specialists (62,200)
 - Electricians (61,800)
 - Middle School Teachers (47,700)
 - Graduate Teaching Assistants (28,300)
 - Fire Fighters (27,000)
 - Fitness Trainers and Aerobics Instructors (23,000)
 - Educational Psychologists (12,400)
 - Veterinary Assistants & Lab Animal Caretakers (5,200)
 - Dancers (2,100)
 - Interpreters and Translators (2,000)
 - Audiologists (1,300)
 - Athletic Trainers (840)³
 - Fish and Game Wardens (total employment figure not available)
 - Protective Service Workers such as Lifeguards and Ski Patrol (total employment figure not available)
-

**Shared
interests do
not necessarily
equal shared
skill levels**

A skills level comparison between RNs and two of the above occupations outside the health care industry (Elementary School Teachers and Fire Fighters) was made using O*NET ratings, and is summarized in Exhibit 4.3 below.

Elementary School Teachers show a remarkably good skills fit in all but one of the top ten skills needed for RNs. They are particularly matched in areas of instructing, social perceptiveness, writing, coordination, and speaking. The sole skills gap noted was in the area of service orientation; however, these authors believe this rating too conservative.

Shared interests do not necessarily equal shared skill levels (continued)

Fire Fighters, while sharing similar interests and work values of RNs, show marked skills gaps in the areas of reading comprehension, instructing, speaking, and writing. They share similar skill levels to RNs in the areas of service orientation, critical thinking, and coordination.

These results illustrate that while workers in two distinct occupations may share the same interests and work values, their respective skill levels will vary, and individuals may or may not be candidates for the new occupation.

Interests and work values are defined and discussed in detail in Section 5 of this report.

EXHIBIT 4.3 – RN Skills Compared to Others With Shared Interests and Work Values

Top Ten Skills Needed by Registered Nurses	RNs	Elementary School Teachers			Firefighters		
	Skill Rating	Skill Rating	Individual Skill Gap	Fit	Skill Rating	Individual Skill Gap	Fit
Reading Comprehension	74	62	-12	Good	40	-34	
Active Listening	65	55	-10	Good	48	-17	
Speaking	64	57	-7	Good	38	-26	
Service Orientation	64	48	-16		67	3	Good
Instructing	62	64	2	Good	33	-29	
Critical Thinking	59	52	-7	Good	55	-4	Good
Monitoring	59	52	-7	Good	40	-19	
Social Perceptiveness	59	64	5	Good	40	-19	
Coordination	59	55	-4	Good	57	-2	Good
Writing	58	55	-3	Good	33	-25	
Average Skills Gap to RN		5.9 pts.			17.2 pts.		

Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

¹ Stephen Heyman, "Male Nurses Find Great Opportunities in South Florida," *Palm Beach Post*, August 26, 2002.

² EDD/LMID, Employment Projections by Occupation 2000-2010. Retrieved from www.calmis.ca.gov/htmlfile/subject/occproj.htm (April 2003).

³ EDD/LMID, *Occupational Employment Statistics (OES) Survey 2002*.

HEART OF RETENTION: INTERESTS AND WORK VALUES

Overview

Interests and work values can contribute to job satisfaction and, consequently, to worker retention. Many individuals overlook thinking about their interests and work values when making career or job choices and end up in an occupation that is not a good match for them. This results in lost time for the workers as they struggle through the realization they did not make a suitable career choice and then must prepare themselves for a “better” job fit. In some cases the stress of an inappropriate job choice can lead to health problems.

It is important for individuals making a career choice to assess their own interests and work values to determine what is of special importance to them before they launch into training for a career. Their future job satisfaction will depend upon these early self-evaluations.

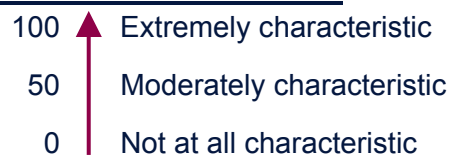
An abundance of assessment tools and exercises exists to make individuals mindful of their interests and work values, the role they play in making a satisfying occupational choice, and how to use interests and work values assessment results with occupational information. Some of these tools are administered and interpreted by a counselor; others are self-administered. Despite the availability of assessment tools, interests and work values are too often a disregarded aspect of making a career or job choice.

Extent scales quantify interests and work values

The U.S. Department of Labor’s Occupational Information Network (O*NET) 4.0 describes and rates interests and work values for each occupation using an extent scale. A standard scale ranging 0 to 100 depicts *the extent to which an occupation offers opportunity to fulfill* the identified interest or value; or, to what extent the interest or value is characteristic of the occupation.

EXHIBIT 5.1 – Extent Scale for Interests and Work Values

Interests and Work Values



Source: O*NET Occupational Information Network 4.0

Interests

Interests generally refer to the like or dislike of activities. The interest component of O*NET draws on the research of John L. Holland¹ whose interest assessment theory and related assessment tools are widely used in schools, colleges, and One-Stop centers. Holland's personality-based theory² makes the following assumptions:³

- People's occupations are extensions of their personalities.
- People working in an occupation have similar personality characteristics.
- Human personalities and work environments can be classified into six categories of vocational personalities and environments as seen in Exhibit 5.2.

EXHIBIT 5.2 – Holland Work Environment and Personality Types

Interest Factor	Description
Realistic R	Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.
Investigative I	Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.
Artistic A	Artistic occupations frequently involve working with forms, designs, and patterns. They often require self-expression and the work can be done without following a clear set of rules.
Social S	Social occupations frequently involve working with, communicating with, and teaching people. These occupations often involve helping or providing service to others.
Enterprising E	Enterprising occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking and often deal with business.
Conventional C	Conventional occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.

A blend




Interests cannot fully be described by just one of the six interest categories. Most people will have interests in several of the areas with one interest area that is more dominant than the others.

**A blend
(continued)**

Occupations also combine interest areas. Since both people and occupations are heterogeneous by nature, a blend of several interest areas can best describe an individual's interests or an occupation's work environment.⁴ According to the Holland research "All occupations tolerate a range of types; but some types appear to cope more successfully with an occupation's demands than do others."⁵

Exhibit 5.3 shows the extent interest scale scores for RNs and each of the four focus health care occupations shaded to indicate the highest three interest areas found in the occupation. A score of less than 50 indicates there is limited opportunity for satisfying that interest in the occupation.

EXHIBIT 5.3 – Interest Profile of Focus Health Occupations

	Registered Nurses	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies, and Attendants	Home Health Aides
Artistic	44	33	22	22	22
Conventional	44	44	67	33	33
Enterprising	33	28	33	50	22
Investigative	67	56	39	28	17
Realistic	50	61	50	72	61
Social	94	100	83	89	89
	SIR	SRI	SCR	SRE	SRC
Primary Interest		Secondary Interest		Tertiary Interest	

Source: Trefoil, *Occupational Viewer 2000* with O*NET in it

Interpretation

Working with people is a “must” for these five occupations that offer ample opportunities for fulfilling *Social* interest. Working with practical hands-on problems and solutions is a strong secondary *Realistic* interest that can be realized in LVN, NA, and HHA occupations.

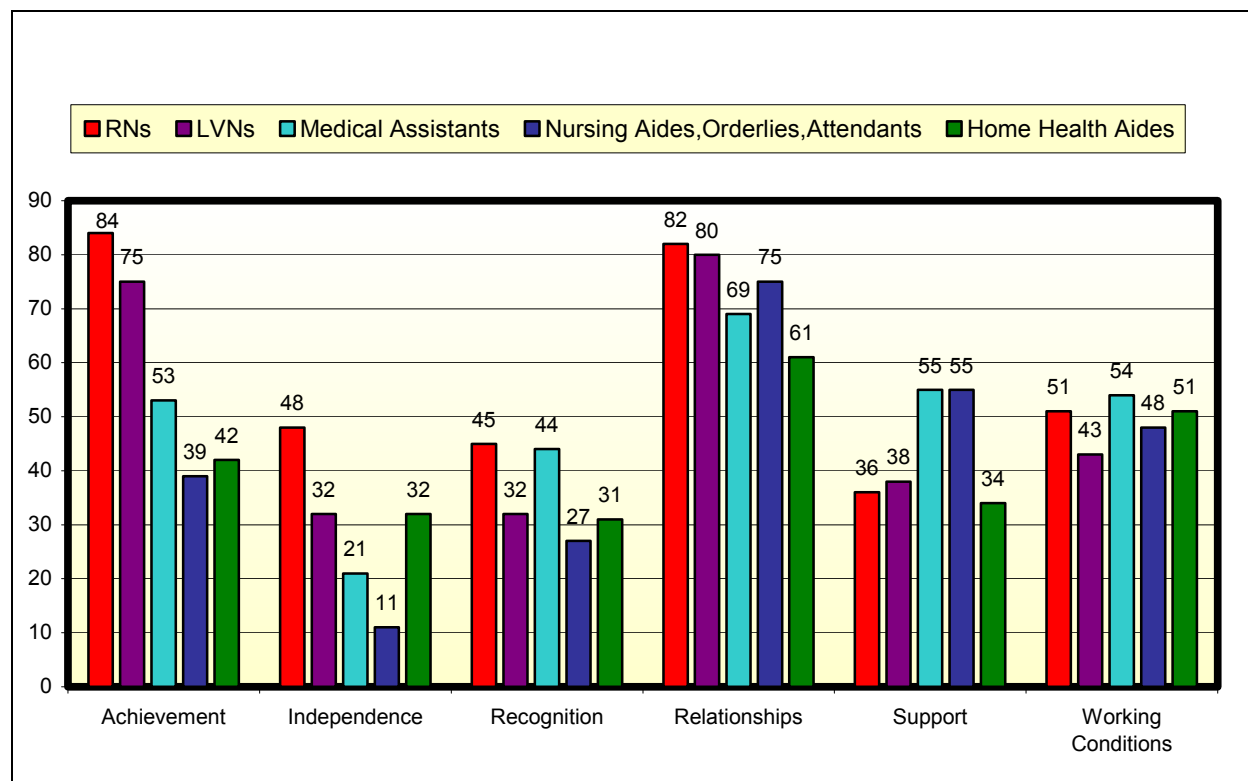
Taken as a whole, the data suggests that the interests of *Social* and to a lesser degree *Realistic* are necessary for potential satisfying employment in any of these five occupations. If a student, job seeker, or employee has little interest in *Investigative* activities, the individual would not likely be satisfied in the LVN or RN occupations. That information could be a consideration for those persons planning to move up a career ladder. Appendix D, *Find a Match for Your Interests in the Health Care Industry*, lists approximately 160 occupations found in the health care industry according to their primary interest area.

Work values Work Values differ from Interests in that they refer to an evaluation of the *importance* of activities and other characteristics of work environments, while interests relate to experience, satisfaction, and attention.⁶ The table in Exhibit 5.4 describes the six work values and twenty-one corresponding needs defined and measured in O*NET. Exhibit 5.5 compares the work value ratings among the focus occupations.

EXHIBIT 5.4 – Work Values and Corresponding Needs

Standardized Work Values	Corresponding Needs
RELATIONSHIPS Occupations that satisfy this work value allow employees to provide service to others and work with co-workers in a friendly non-competitive environment.	<ul style="list-style-type: none"> • <u>Social Service</u> - Workers on this job have work where they do things for other people • <u>Moral Values</u> - Workers on this job are never pressured to do things that go against their sense of right and wrong • <u>Co-workers</u> - Workers on this job have co-workers who are easy to get along with
SUPPORT Occupations that satisfy this work value offer supportive management that stands behind employees.	<ul style="list-style-type: none"> • <u>Supervision, Human Relations</u> - Workers on this job have supervisors who back up their workers with management • <u>Company Policies and Practices</u> - Workers on this job are treated fairly by the company • <u>Supervision, Technical</u> - Workers on this job have supervisors who train their workers well
WORKING CONDITIONS Occupations that satisfy this work value offer job security and good working conditions.	<ul style="list-style-type: none"> • <u>Security</u> - Workers on this job have steady employment • <u>Activity</u> - Workers on this job are busy all the time • <u>Variety</u> - Workers on this job have something different to do every day • <u>Independence</u> - Workers on this job do their work alone • <u>Working Conditions</u> - Workers on this job have good working conditions • <u>Compensation</u> - Workers on this job are paid well in comparison with other workers
ACHIEVEMENT Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment.	<ul style="list-style-type: none"> • <u>Achievement</u> - Workers on this job get a feeling of accomplishment • <u>Ability Utilization</u> - Workers on this job make use of their individual abilities
RECOGNITION Occupations that satisfy this work value offer advancement, potential for leadership, and are often considered prestigious.	<ul style="list-style-type: none"> • <u>Social Status</u> - Workers on this job are looked up to by others in their company and their community • <u>Advancement</u> - Workers on this job have opportunities for advancement • <u>Authority</u> - Workers on this job give directions and instructions to others • <u>Recognition</u> - Workers on this job receive recognition for the work they do
INDEPENDENCE Occupations that satisfy this work value allow employees to work on their own and make decisions.	<ul style="list-style-type: none"> • <u>Autonomy</u> - Workers on this job plan their work with little supervision • <u>Creativity</u> - Workers on this job try out their own ideas • <u>Responsibility</u> - Workers on this job make decisions on their own

EXHIBIT 5.5 – Extent to Which Work Values May be Fulfilled In Occupation



Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

Extent Scale of Opportunity to Satisfy Work Values

- 100 Extremely characteristic
- 50 Moderately characteristic
- 0 Not at all characteristic

Work values interpretation

The five focus health care occupations offer a range of opportunity for fulfilling work values. This means both the potential for great satisfaction or disappointment exists in these occupations depending on the work values of the individual job seekers.

Achievement – Registered Nurses and LVNs may expect a considerable sense of achievement as they see their efforts save lives and bring relief and comfort to the ill. The roles of the MA, NA, and HHA offer less opportunity to feel a similar sense of achievement.

Work values interpretation (continued)

Independence – Individuals to whom independence is a strong work value would best be advised to look to other careers than the five focus health care occupations. Health care workers are part of a health care team and independent behaviors would be counterproductive.

Recognition – Individuals craving recognition might find more opportunities for recognition in other careers. Registered Nurses, LVNs, and MAs receive a moderate level of social status from their career. Opportunities for advancement depend on further education and certification rather than job performance. Only the RN has a moderate level of authority. Recognition for the five focus health care career occupations will come primarily from the gratitude of patients and their families for the services provided.

Relationship – Relationship is the work value most likely to be gratified for the focus five health care occupations. Working as part of a health care team to care for people provides opportunities for fulfilling this work value.

Support – Medical Assistants and NAs generally receive moderate levels of support while RNs, LVNs, and HHAs receive more limited support.

Working Conditions – The “24/7” nature of health care facilities necessitates work schedules that would not appeal to many people. To some, however, the opportunity to have days free and work nights or weekends fits their lifestyle or interests. Of the six needs comprising working conditions, variety, security, and activity are met at the moderate level for the group as a whole. Registered Nurses are rated as having considerable opportunity for activity and job security. The mandatory overtime for some RNs in recent years would be an unappealing working condition.

Work values conflict

The prospect of fulfilling work values important to them can draw individuals to an occupation and help them persevere through the transient difficulties found in any work setting. For RNs and LVNs, *Relationships* and *Achievement* are the two work values that have greatest potential for realization.

**Work values
conflict
(continued)**

Could changes in the health care delivery system and role of RNs over the last decade have compromised the extent to which the *Relationships* and *Achievement* values can be realized?

The March/April 2000 issue of *RevolutionN*, the bimonthly publication for the Center for Caregiver and Patient Advocacy, a charitable research and educational organization founded by the California Nurses Association, reported the following results of a survey conducted by Fingerhut Granados Opinion Research:

- 66 percent of RNs believe that “staffing levels are inadequate where they work.”
- 69 percent worried that “patients aren’t getting the care they need.”
- 75 percent were concerned that “because of short staffing, a mistake affecting a patient will occur.”⁷

Such concerns expressed in the Fingerhut study are in direct conflict with the work values of *Relationships* and *Achievement*. The stress of such prolonged work values conflict could be a contributing factor to the rate at which RNs are leaving the occupation.

**Implications
for attrition
and retention**

Assessment of work values and interests benefits students, workers, employers, and educational and training institutions. The earlier individuals are prompted to think about their interests and work values and understand the possibilities for realizing them through occupational choice, the more likely they are to make a gratifying career decision for themselves.

Career and training decisions are often driven by external factors, such as peer or parental pressure, “hot” jobs receiving attention in the press, or training program solicitations. When little reflection has gone into a career decision, individuals may have inadequate motivation to persevere during difficulties with studies or on the job.

Assessment of interests and work values as well as academic record during the selection process might improve attrition rates for schools and retention rates for employers. Interests and work values assessments were not one of the variables researched in The Center for Student Success’ recent study of predicting successful completion of Associate Degree Nursing Programs; however, their review of literature cited studies that demonstrated “student dispositional and personality traits could provide a valid and reliable model for predicting student success or failure.”⁸

**Implications
for attrition
and retention
(continued)**

Educators and employers can use interests and work values assessment tools to assist students and applicants make a compatible job-person match leading to employee retention and a healthier workplace. The cost of such assessment is small compared to the cost of recruitment and the lost potential from training attrition.

As health care providers re-engineer the workplace tasks, they need to be attentive to retaining the essential work values that attract workers to a health care occupation as well as enhancing the opportunity for other work values to be more fully realized.

For more detailed look at work values, see Appendices E and F. Appendix F, *Satisfy Your Values in Health Care Careers*, lists occupations in the health care industry that offer moderate or considerable opportunity to satisfy each value and related needs. Occupations that offer only limited opportunity to satisfy the value are not listed. Appendix E contains O*NET work values and the related needs ratings for the five focus health care occupations.

Caveat

The work value ratings in O*NET are national generalizations based upon review by occupational analysts. Circumstances will vary from state to state, employer to employer, and supervisor to supervisor.

¹ J.L. Holland, *Making of vocational choices: A theory of vocational personalities and work environments*, (3rd ed.), Psychological Assessment Resources, Inc., Odessa, FL, 1997, cited by James Rounds et al, *Development of Occupational Interest Profiles for O*NET*, National Center for O*NET Development, Raleigh, N.C., 1999, p. 2.

² Ibid.

³ Judith M. Ettinger [Ed.], *Improved Career Decision Making in a Changing World*, Garrett Park Press, Garrett Park, MD, 1991, p. 4-4.

⁴ U.S. Department of Labor, Employment and Training Administration, *O*NET Interest Profiler User's Guide*, IP-0102, U.S. Government Printing Office, 2000, p. 18.

⁵ Gary D. Gottfredson and John L. Holland, *Dictionary of Holland Occupational Codes*, Psychological Assessment Resources, Inc., 3rd ed. Odessa, Florida, 1996, p. 13.

⁶ Norman Peterson et al., *O*NET Content Model*, U.S. Department of Labor, p. 11-2, 1995.

⁷ Don DeMoro, "Engineering a Crisis, How Hospitals Created a Shortage of Nurses," *RevolutionN*, Center for Caregiver and Patient Advocacy, Vol. 1, No. 2, March/April 2000. Retrieved from www.revolutionmag.com/engineering.html (May 2002).

⁸ Brad C. Phillips, Ph.D., et al., *Associate Degree Nursing: Model Prerequisites Validation Study*, The Center for Student Success, California Community Colleges, June 2002, p. 18. Retrieved from www.lattc.cc.ca.us/dept/tisp/documents/NursingAdmissionsStudy.pdf (September 2002).

SKILLS GAP ANALYSIS

Introduction

As the following comparisons are made, it should be emphasized that pointing to skills gaps between two occupations is limited to requirements for the *job*, and does not consider the skills, knowledge, and abilities individuals gain from other job or life experiences. For instance, a Medical Assistant may have previous experience as a Teacher's Aide and be an avid reader, which would raise skill levels in instructing and reading comprehension.

Therefore, it is recommended that health care recruiters use these data for general tendencies, and continue to administer standardized assessments to measure individual competencies.

Basic skills defined

The O*NET divides skills into two broad categories: *basic* and *cross-functional*. Basic skills can be viewed as “capacities developed over a relatively long period of time that promote or provide a foundation for learning other types of material.”¹ These basic skills can be further divided into content or knowledge-based skills such as reading comprehension and mathematics and process skills that involve applying content learned (such as critical thinking and monitoring).

The above words “long period of time” should fairly leap out to those who assess individuals for career ladder training and development programs. If candidates entering a training program demonstrate a significantly lower level of reading comprehension than what is required for the target occupation, chances are the training period will need to be an extended one in order to have a significant number of completers.

Cross-functional skills

Cross-functional skills include problem-solving skills, social skills, technological skills, systems skills, and resource management skills.

These kinds of general activities, such as social perceptiveness, service orientation, and coordination, occur on all jobs at some level, and suggest the skill can be transferred from one occupation to another, allowing for time to tailor the skill to the job. How much time would depend both on the job requirements of the target occupation and the basic skill level attained by the individual.

**Skill levels –
How others
compare to
RNs**

The table below lists the top ten skills required for Registered Nurses (RNs), level ratings for RNs, and corresponding ratings for Licensed Vocational Nurses (LVNs), Nursing Aides (NAs), Home Health Aides (HHAs), and Medical Assistants (MAs).

The ratings listed represent the average *level* or amount of skill required for each occupation, based on the standard scale of 0-100, with 0 indicating no level of skill required and 100 indicating the highest level of skill required to perform the job.

It bears repeating here that, while a skill may be very important for an occupation, the level of expertise may be relatively low for the job. For instance, judgment and decision making and science are among the top ten *important* skills for RNs. However, they don't appear in the top ten *level* skills for RNs, indicating that while RNs will certainly need these skills, they don't necessarily have to perform them at a high level.

EXHIBIT 6.1 – Top Skill Levels for Registered Nurses Compared to Focus Occupations

Skill	Registered Nurses	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies, and Attendants	Home Health Aides
1. Reading Comprehension	74	64	59	45	48
2. Active Listening	65	55	57	48	43
3. Speaking	64	52	52	45	43
4. Service Orientation	64	69	57	45	59
5. Instructing	62	33	26	21	19
6. Critical Thinking	59	55	38	31	43
7. Monitoring	59	52	40	33	43
8. Social Perceptiveness	59	57	43	50	45
9. Coordination	59	48	36	43	36
10. Writing	58	45	48	38	38

Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

SKILLS ANALYSIS

The following individual skills gap analyses compare RN top ten skill levels to the skill level requirements of the focus health care occupations: MAs, LVNs, NAs, and HHAs. Ratings, examples, and definitions are extracted from the O*NET database. Included for each skill category is a brief skill definition, type of skill, O*NET level rating on the 0-100 standard scale, as well as benchmark examples that demonstrate various skill levels. For an explanation of the O*NET occupational fit methodology, see Appendix G.

Reading Comprehension

Understanding written sentences and paragraphs in work-related documents.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	74	
LVNs:	64	Good Fit
MAs:	59	
NAs:	45	
HHAs:	48	

Level Benchmark Examples:

85	•Reading a scientific journal article describing surgical procedures
57	•Reading a memo from management describing new personnel policies
28	•Reading step-by-step instructions for completing a form
0	•Not relevant

Most would agree that the higher one's level of reading comprehension, the easier it is to acquire new knowledge.² The O*NET ranks reading comprehension as the highest level of skill needed for RNs. Thus, workers in other health care fields who wish to move to the nursing field and who can demonstrate a high level of reading comprehension will theoretically learn the required course content quicker and easier than those workers with less competency in reading.

Of the five occupations in focus, the closest fit in reading comprehension to the RN is the LVN with a 10-point variance in required level, followed by the MA with a 15-point variance. These two occupations also require reading more difficult material such as medical procedures or research papers.

Home Health Aides and NAs, which reveal 26 and 29-point gaps respectively, most often are required to read step-by-step instructions.

Active Listening

Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	65	
LVNs:	55	Good Fit
MAs:	57	Good Fit
NAs:	48	
HHAs:	43	

Level Benchmark Examples:

85	• Presiding as judge in a complex legal disagreement
57	• Answering inquiries regarding credit references
28	• Taking a customer's order
0	• Not relevant

Much of the information conveyed to RNs comes in the form of oral communication. However, when patients are in physical or emotional crisis, what they say may be very different from what they mean. It is not sufficient just to listen; feedback must be gained in order to clarify information that may be ambiguous.

Active listening is a skill needed in many health care occupations, but especially by the RN, in order to acquire adequate and correct information from patients, families, physicians, and other staff members.

Skill levels for LVNs and MAs each fall within ten points of the RN requirement, with MAs showing a slightly higher level of this skill (57) compared to the rating (55) of LVNs.

The difference in level requirements for RN versus NAs and HHAs is understandable when one looks at the variety of people RNs must listen to on a daily basis and the weight of the consequence that may occur if the information given is not understood.

Nursing Aides and HHAs must listen to patients and relay that information to the staff RN. However, RNs must be able to rapidly adapt their listening skills. For example, they may need to quickly move from technical and often-rushed conversations with a physician, to patients or families who may not know the medical terminology to properly describe their symptoms. To a similar extent, LVNs and MAs exhibit comparable levels of this basic skill.

Speaking

Talking to others to convey information effectively.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	64
LVNs:	52 Good Fit
MA:	52 Good Fit
NAs:	45
HHAs:	43

Level Benchmark Examples:

85	• Arguing a legal case before the Supreme Court
57	• Interviewing applicants to obtain personal and work history
28	• Greeting tourists and explaining tourist attractions
0	• Not relevant

One way we convey our learning to others is through speaking. Registered Nurses use speaking skills to explain procedures and tasks to caregivers and patients. They need to speak with patients regularly to check their mental and physical condition.

The RNs also use speaking skills to teach staff members, counsel patients and family members, and to act as intermediary between the physician, hospital staff, and the patient. They discuss cases with physicians and other specialists, and inform surgeons of a patient's condition during and after an operation or procedure.

The LVNs and MAs are a "Good Fit" for this skill since they demonstrate speaking in their daily work with patients, physicians, medical team members, and families.

Service Orientation

Actively looking for ways to help people.

Type of Skill: Cross-functional

Health Care Level Ratings:

RNs:	64
LVNs:	69 Good Fit
MA:	57 Good Fit
NAs:	45
HHAs:	59 Good Fit

Level Benchmark Examples:

85	• Directing relief agency operations in a disaster area
57	• Making flight reservations for customers, using airline reservation system
28	• Asking customers if they would like cups of coffee
0	• Not relevant

This skill, also defined as one of the social skills by O*NET, can be measured in "how a worker attempts to provide others with needed services, anticipating their needs and responding to their concerns."³

With the exception of NAs, all of the focus occupations ranked within seven points of RNs for the cross-functional skill of service orientation, and would be considered by O*NET to be a "Good Fit."

The difference in level of skill required for NAs versus LVNs is illustrated when looking at the respective daily tasks performed. Nursing Aides follow a more rigid list of tasks in nursing homes or acute care hospitals and are not expected to deviate from the scheduled duties, such as giving baths and feeding the patient. The LVNs, even more than RNs, are in a position to see more ways to help patients, as they often spend more individual time with patients than RNs, who must supervise staff and act as intermediaries to physicians.

Instructing

Teaching others how to do something.

Type of Skill: Cross-functional

Health Care Level Ratings:

RNs:	62
LVNs:	33
MAAs:	26
NAs:	21
HHAs:	19

Level Benchmark Examples:

85	• Demonstrating surgical procedures to interns in a teaching hospital
57	• Instructing a co-worker in how to operate a software program
28	• Instructing a new employee in the use of a time clock
0	• Not relevant

The largest skills gap between RNs and the other health care occupations in focus appears to be in the area of instructing.

Instructing is an integral part of the RN's workday. They may teach staff members the importance of a sterile environment, instruct NAs and LVNs on a new procedure, show a patient how to self-administer injections, lecture on topics such as childbirth or disease prevention, or educate family members on caring for a seriously ill relative.

The closest focus occupation to the RN in the instructing skill is the LVN; however, it is rated 29 points lower than the RN. The largest skills gap noted by O*NET in this area was seen between HHAs and RNs with a 43-point difference.

Critical Thinking

Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	59
LVNs:	55 Good Fit
MA:	38
NAs:	31
HHAs:	43

Level Benchmark Examples:

85	• Writing a legal brief challenging a federal law
57	• Evaluating customer complaints and determining appropriate responses
28	• Determining whether a subordinate has a good excuse for being late
0	• Not relevant

Critical thinking is one of the “content” skills that contribute to more rapid learning across many areas.⁴ With this skill, one has the capacity to identify important and relevant data from a large body of information.

Registered Nurses demonstrate this skill when they assess a patient’s condition, evaluate diagnostic test results, or plan a nursing unit’s workload.

The LVN shows the closest skills fit to the RN in the area of critical thinking, with a 4-point variance noted. However, the occupations NAs, MAs, and HHAs show more notable variances (28, 21, and 16-points, respectively) in skill levels required.

Monitoring

Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	59
LVNs:	52 Good Fit
MAs:	40
NAs:	33
HHAs:	43

Level Benchmark Examples:

- | | |
|----|---|
| 85 | • Reviewing corporate productivity and developing a plan to increase productivity |
| 57 | • Monitoring a meeting's progress and revising the agenda to ensure that important topics are discussed |
| 28 | • Proofreading and correcting a letter |
| 0 | • Not relevant |

The skill of monitoring represents an ongoing appraisal of one's success at a task or goal, revising a strategy or approach when the desired results are not obtained.

The RNs demonstrate this skill in such tasks as assessing the need for and adjusting the number of workers in a ward as the census of patients fluctuates.

The LVNs show a similar required skill level as the RN, with a 7-point variance observed. They often need to make adjustments in their tasks, such as changing a needle size when administering injections to a small child, or recognizing an adverse reaction to a medication or treatment. Home Health Aides, with a 16-point variance to the RN, often must adjust tasks to fit the changing environment or residence.

Medical Assistants, showing a 19-point level variance to the RN, demonstrate monitoring by adjusting their physician's appointment schedule as changes are made. The largest skills gap (26 points) is apparent between RNs and NAs, who are closely supervised and not given the responsibility of adjusting tasks or expected to recognize subtle changes that may mean a reaction to treatment or medication.

Social Perceptiveness

Being aware of others' reactions and understanding why they react as they do.

Type of Skill: Cross-functional

Health Care Level Ratings:

RNs:	59	
LVNs:	57	Good Fit
MAs:	43	
NAs:	50	Good Fit
HHAs:	45	

Level Benchmark Examples:

85	• Counseling depressive patients during a crisis period
57	• Being aware of how a co-worker's promotion will affect a work group
28	• Noticing that customers are angry because they have been waiting too long
0	• Not relevant

Social perceptiveness is the capacity to acquire and understand social information and forms a basis for many kinds of complex social interactions, such as coordination, persuasion, instructing, and service orientation.⁵ It is considered an essential element for team participation. The importance of working as a team is key in the health care setting, and all occupations in focus cluster around the midpoint of the level scale, indicating a fair degree of perceptiveness required.

The RN uses social perceptiveness when listening or observing patients' reactions, such as recognizing fear in a patient when being instructed on a procedure.

In comparing the five health care occupations, the closest skills fit to RNs is the LVN with a 2-point variance. The poorest fit appears to be between RNs and MAs with a 16-point gap noted on the level scale.

Coordination

Adjusting actions in relation to others' actions.

Type of Skill: Cross-functional

Health Care Level Ratings:

RNs:	59
LVNs:	48 Good Fit
MAs:	36
NAs:	43
HHAs:	36

Level Benchmark Examples:

- | | |
|----|--|
| 85 | • Working as director of a consulting project calling for interaction with multiple subcontractors |
| 57 | • Working with others to put a new roof on a house |
| 28 | • Scheduling appointments for a medical clinic |
| 0 | • Not relevant |

Coordination is a social skill dependent upon the attainment of social perceptiveness before it can be demonstrated and is considered one of the essential skills to team performance. As lead for a nursing station, the RN must coordinate a variety of workers and rotating schedules and make certain that caregivers are assigned to each patient, as staff and patient census fluctuates.

Our other health care occupations in focus may have less latitude to change actions in relation or response to others' reactions, and are more likely to be wedded to a schedule or list of procedures. The closest fit to the RN in this category is the LVN, with an 11-point variance. The poorest fit is observed in both MAs and HHAs, each with a 23-point variance.

Writing

Communicating effectively in writing as appropriate for the needs of the audience.

Type of Skill: Basic

Health Care Level Ratings:

RNs:	58	
LVNs:	45	Good Fit
MAAs:	48	Good Fit
NAs:	38	
HHAs:	38	

Level Benchmark Examples:

- | | |
|----|--|
| 85 | • Writing a novel for publication |
| 57 | • Writing a memo to staff outlining new directives |
| 28 | • Taking a telephone message |
| 0 | • Not relevant |

Registered Nurses must produce clearly written material in the form of nursing care plans, case histories, and patient records. In addition, many RNs write articles, books, or papers for trade journals or other publications as well as instructional materials for nursing candidates. They also write out detailed instructions for patients and family members.

The skill of writing is rated Important or Very Important for all five occupations in focus; the difference lies in the varying *levels* of writing skill required. Medical Assistants show the nearest fit to the RN with a ten-point skills gap; however, the content of their written material differs markedly with that of the RN. For example, MAs chiefly record patient transactions, compute monthly statements, and schedule appointments. Their writing does not include analysis, detailed instruction, or recommendations to physicians about a patient's condition or treatment.

The LVN also earns a "Good Fit" rating with a 13-point gap in skill level. This occupation requires patient charting and making written entries in case files; however, these workers are not required to communicate in writing with physicians and outside health care workers on the status of a patient's condition, but report to the RN on duty.

Home Health Aides and NAs require writing skills at a considerably lower level, even though the accuracy of their written material is essential, like all occupations in focus. They both show a more marked 20-point skills gap between their average level and that of the RN.

Best overall skills fit to RN: LVNs

When comparing the RN top ten required skills to the other four health care occupations in focus, it should come as no surprise that LVN emerges as having the closest overall fit, with an average 9-point gap noted.

The second nearest skills fit was the MA, showing an average 17-point skills gap. Home Health Aides reveal an average 21 points behind the target RN occupation, with NAs close behind at an average 22-point gap.

The most notable skills gap between RN levels and *all* four health care occupations in focus is in the area of instructing, with the MA, NA, and HHA also showing skills gaps in the areas of reading comprehension, critical thinking, monitoring, and coordination.

While overall fit comparisons can be useful in the general sense, it should be stressed that building and/or improving individual skills levels requires a curriculum tailored to the skill or competencies desired.

Individual assessments of candidates for LVN and MA bridging programs will reveal variances in skill level. This assessment process will allow for a better-prepared selection of candidates and an improved attrition rate.

Another possibility: Dietetic Technicians

While not a large occupational group (less than 3,000 workers in California),⁶ Dietetic Technicians show a notable skills match to the RN when comparing skills important to the RN.

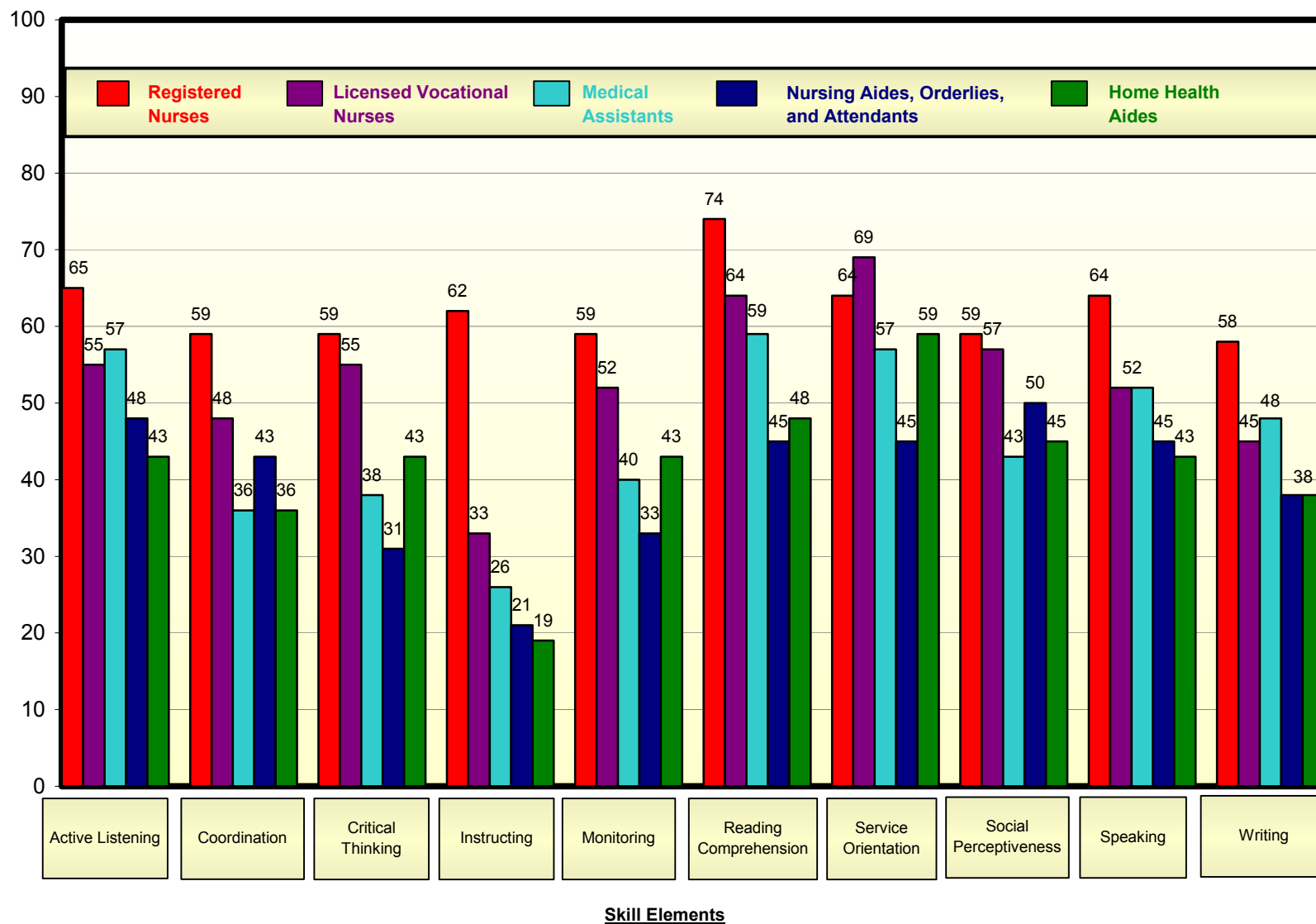
Skill level requirements for Dietetic Technicians are closely allied to those of RNs, with an average skills gap of 3.0 (see Exhibit 6.2).

Registered Dietetic Technicians require a two-year associate arts degree in California, similar in length to an RN training program at a community college. However, average earnings for Dietetic Technicians are \$12.79 per hour in California compared to the \$28.26 per hour average earnings for RNs in the state.⁷ This occupation may provide another recruitment source for the RN career ladder.

EXHIBIT 6.2 – Skill Requirement Comparisons Between Registered Nurses and Dietetic Technicians

Top Ten Skills Needed for Registered Nurses	Registered Nurses	Dietetic Technicians	Gap between Dietetic Technicians and Registered Nurses
Reading Comprehension	74	67	-7
Active Listening	65	62	-3
Speaking	64	62	-2
Service Orientation	64	57	-7
Instructing	62	59	-3
Critical Thinking	59	55	-4
Monitoring	59	57	-2
Social Perceptiveness	59	55	-4
Coordination	59	55	-4
Writing	58	64	+6
Average Skills Gap: Dietetic Technicians vs. Registered Nurses			-3.0

EXHIBIT 6.3 - Registered Nurse Top Skills -- How Others in Health Care Compare



¹ Norman Peterson, et al., *O*NET Content Model*, U.S. Department of Labor, 1995, p. 3-8, 1995.

² Ibid., p. 3-9.

³ Ibid., p. 3-30.

⁴ Ibid., p. 3-9.

⁵ Ibid., p. 3-29.

⁶ EDD/LMID, *Projections of Employment 2000-2010*.

⁷ EDD/LMID, *Occupational Employment Statistics (OES) Survey 2002*.

KNOWLEDGE GAP ANALYSIS

Introduction

Knowledge can be defined as a set of principles and facts applying to a general subject. It is either acquired through formal education or training, or accumulated through specific experiences.

There are two types of knowledge:

General – Important to successful performance in a greater variety of jobs in the economy.

Specific – Applies to a narrow range of jobs, while still other categories of knowledge are specific to one occupation.

In 1995, O*NET developers devised a taxonomy of work-oriented knowledge areas with an accompanying measurement system based on research using tasks and/or behaviors that represent underlying knowledge. Sources for this effort were principally drawn from the *Dictionary of Occupational Titles*¹ and research efforts, such as the Fleishman-Job Analysis Survey (F-JAS)² and the DOL's Secretary's Commission on Achieving Necessary Skills (SCANS, 1992).³

Identifying shared knowledge between occupations useful in cross training

The O*NET knowledge scales and taxonomy were tested in several studies to demonstrate the usefulness of the knowledge domain in describing and understanding job performance.

One study involved a major governmental agency facing staff reductions and a change in organizational direction. The agency wanted 75 job classifications to be further distilled into broader job families that could then be used in cross-training or job placement of current employees.⁴

Using knowledge scales to assess workers resulted in identification of a group of 15 job families within the agency, such as "personnel support" and "information assessment." In each case, O*NET knowledge elements were critical in differentiating and describing the resulting job families and shedding light on commonalities between positions that had heretofore not been recognized, which ultimately resulted in a quicker and better quality human resource solution.

EXHIBIT 7.1 – Top Knowledge Levels for Registered Nurses Compared to Focus Occupations

Knowledge	Registered Nurses	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies, and Attendants	Home Health Aides
1. Customer and Personal Service	67	59	36	48	52
2. Education and Training	64	17	14	17	9
3. Medicine and Dentistry	63	57	50	43	31
4. Biology	62	52	50	29	17
5. Therapy and Counseling	62	40	43	38	31
6. Chemistry	61	40	45	33	19
7. Psychology	58	50	43	45	38
8. English Language	55	38	48	29	26
9. Administration and Management	43	19	17	2	21
10. Law and Government	43	12	36	29	9

Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

Gap Analysis

The gap analysis on following pages compares RN top knowledge categories and their required levels to those of the focus health care occupations. Ratings, examples, and definitions are from the O*NET 4.0 database. Included for each knowledge is a brief definition, O*NET level rating on the 0-100 standard scale, and benchmark tasks that demonstrate various levels of knowledge. For an explanation of the O*NET occupational fit methodology, see Appendix G.

Customer and Personal Service

Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Health Care Level Ratings:

RNs:	67
LVNs:	59 Good Fit
MAs:	36*
NAs:	48
HHAs:	52

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

92	• Responding to citizens' requests for assistance after a major natural disaster
71	• Catering a large wedding
57	• Running a hospital cleaning service
28	• Providing air flight arrival times over the phone
0	• Not relevant

Providing service to others has always been a major focus in healthcare, but as competition between providers becomes keen, the reasons for doing so extend beyond the area of providing basic human needs.

Experts agree that the consumer will continue to seek services from an organization if they are satisfied with the manner in which those services are provided.

The RNs need to establish and maintain exceptional customer service every day in their health care role. Their higher rating in this area reflects the broader base of customers they serve, as well as the responsibility they have over staff to ensure customer satisfaction.

This knowledge is learned by RNs in traditional learning environments such as the fundamentals of nursing courses. Continuing education courses for RNs also include training in customer and personal service.

Licensed Vocational Nurses show a "Good Fit" rating when compared to the RN for this knowledge category. They must deal with difficult patients and families in the same way RNs do, assessing and using the right technique or manner needed. Home Health Aides and NAs show knowledge in this area.

Medical Assistants serve people all day long, from patients to physicians. Authors believe the O*NET rating of 36 does not reflect MAs' scope of knowledge in this area.

Education and Training

Knowledge of principles and methods for curriculum and training design, teaching and instruction for individuals and groups, and the measurement of training effects.

Knowledge of teaching methods and theory are a recognized need for today's RN, who must instruct patients, families, other nurses, allied care staff, and the public in a variety of settings. This knowledge is notably lacking in the other focus health care occupations.

In California, 1,900 RNs worked as postsecondary teaching instructors in 2000, with the occupation expected to grow by 32 percent in the next eight years.⁵ Staff nurses teach procedures ranging from self-administering injections to baby care. They must tailor their teaching style to the oral comprehension level of the student or patient.

Health Care Level Ratings:

RNs:	64
LVNs:	17
MAAs:	14
NAs:	17
HHAAs:	9

The nearest fits to the RN are LVNs and NAs, both rated at 17; however, this 47-point gap indicates a marked need for teaching methods and learning theory in this area to bring knowledge up to the needed level of RN.

Level Benchmark Examples:

71	• Teaching a high school general science course
60	• Leading a quality improvement seminar
27	• Showing someone how to bowl
14	• Requires knowledge of single instructional approaches to teach simple tasks to students
0	• Not relevant

Medicine and Dentistry

Knowledge of the information and techniques needed to diagnose and treat human injuries, diseases, and deformities. This includes symptoms, treatment alternatives, drug properties and interactions, and preventive health-care measures.

Medical and dental knowledge goes without question for all occupations in this cluster. “Good Fit” designations are given to both LVNs and MAs, but for dissimilar sub-specialty areas of knowledge.

Licensed Vocational Nurses share with RNs much of the knowledge needed to treat injuries, recognize symptoms of illness, and take preventive health-care measures. Medical Assistants require a broader knowledge of medical terminology than LVNs and less knowledge needed of clinical and diagnostic procedures.

Nursing Aides and HHAs show gaps of 20 points and 32 points, respectively, strongly indicating a need for significantly higher knowledge in medicine before moving into an RN role.

Health Care Level Ratings:

RNs:	63	
LVNs:	57	Good Fit
MAs:	50	Good Fit
NAs:	43	
HHAs:	31	

Health occupations in this comparative study will require solid training in such medicine-based areas as complex health problems and their treatment, pharmacology, and pathophysiology.

Level Benchmark Examples:

98	• Performing open-heart surgery
78	• Diagnosing appendicitis from a patient's symptoms
64	• Filling a tooth cavity
38	• Taking a person's blood pressure
0	• Not relevant

Biology

Knowledge of plant and animal organisms, their tissues, cells, functions, interdependencies, and interactions with each other and the environment.

Knowledge pertinent to RNs includes anatomy and physiology, nutritional science, and microbiology. In various areas of specialty, other bodies of knowledge may be required, such as genetics or biochemistry.

Both LVNs and MAs learn anatomy and physiology in their training curricula, as well as nutrition and laboratory techniques that demonstrate some knowledge of general biology. This knowledge puts them in the “Good Fit” category.

Health Care Level Ratings:

RNs:	62	
LVNs:	52	Good Fit
MAs:	50	Good Fit
NAs:	29	
HHAs:	17	

Nursing Aides and HHAs show marked gaps (33 and 45 points, respectively) in biology, which suggests substantial training needed to perform at the RN level.

Level Benchmark Examples:

97	• Isolating and identifying a microscopic virus
77	• Investigating the effects of pollution on marine plants and animals
42	• Dissecting a frog
17	• Feeding domestic animals
0	• Not relevant

Therapy and Counseling

Knowledge of principles, methods, and procedures for diagnosis, treatment, and rehabilitation of physical and mental dysfunctions, and for career counseling and guidance.

The nearest fit to RN in this area is the MA with a 19-point gap noted; however, no focus health occupation earns a “Good Fit” rating.

All occupations in this group have opportunity to work therapeutically with patients and families during the course of their work. However, RNs must regularly do therapeutic nursing interventions to promote, maintain, and restore health in their clients. They must work as advocates for patients in acute care and outpatient clinics, guiding or referring individuals to seek help in areas such as childbirth, physical therapy, alternative treatment, rehabilitation, social service, and psychiatry.

All focus health occupations will require courses to raise their knowledge of physical therapy and mental health counseling, as well as principles of social work.

Health Care Level Ratings:

RNs:	62
LVNs:	40
MAAs:	43
NAs:	38
HHAs:	31

Level Benchmark Examples:

- | | |
|----|---|
| 85 | • Designing a physical therapy program to rehabilitate stroke victims |
| 60 | • Providing job counseling to the unemployed |
| 27 | • Putting ice on a sprained ankle |
| 0 | • Not relevant |

Chemistry

Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.

Medicinal and pharmaceutical chemistry is used by RNs in areas such as drug treatment protocols, where they must recognize how different medications and foods interact and may affect various body systems.

Registered Nurses' knowledge of chemistry in this area is required at a notably higher level than MAs, who are the closest fit with a 16-point gap noted. Medical Assistants and LVNs occasionally perform routine laboratory tests that require knowledge of basic chemistry. However, no focus health occupations earn a "Good Fit" rating in the knowledge of chemistry, which suggests the need for assessments and coursework in medicinal chemistry.

Health Care Level Ratings:

RNs:	61
LVNs:	40*
MAs:	45
NAs:	33
HHAs:	19

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

90	• Developing a safe commercial cleaner
57	• Using proper concentration of chlorine to purify a water source
21	• Using a common household bug spray
0	• Not relevant

Psychology

Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.

Health Care Level Ratings:

RNs:	58
LVNs:	50 Good Fit
MAAs:	43
NAs:	45 Good Fit
HHAs:	38

Level Benchmark Examples:

91	• Treating a person with a severe mental illness
78	• Developing a job performance appraisal system
54	• Understanding the impact of alcohol on human responses
32	• Soothing a sad friend
0	• Not relevant

Registered Nurses need to know principles of psychology of human behavior and assessment of behavioral and affective disorders. They use this knowledge when encouraging reluctant patients to follow agreed-upon protocols and when assessing patient needs for services in community agencies, such as social services.

Licensed Vocational Nurses and NAs both earn a “Good Fit” rating in the knowledge of psychology when compared to RN requirements. These two occupations are required to understand human behavior and, depending on their area of specialty, the treatment of behavioral and affective disorders. Medical Assistants, while just missing the O*NET “Good Fit” designation by one point, show a knowledge level similar to NAs.

Home Health Aides show a more notable gap in the knowledge of psychology at 20 points. Assessments should be included in bridging programs to determine an individual candidate’s knowledge of psychology.

English Language

Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Health Care Level Ratings:

RNs:	55
LVNs:	38*
MAs:	48 Good Fit
NAs:	29
HHAs:	26

* This O*NET rating questioned by study authors

Level Benchmark Examples:

82	• Teaching a college English class
60	• Editing a feature article in a local newspaper
50	• Reading a complicated historical novel
21	• Writing a thank-you note
0	• Not relevant

Medical Assistants show the best fit to RNs in knowledge of English language with a relatively small 7-point gap. This is largely due to their need to grasp medical terminology and spelling.

In addition to the expected charting tasks, RNs write synopses of protocols, journal articles, research reports, instructions to patients and families, training syllabi, and communicate through memoranda with other professional staff. Their wording, either in writing or orally, needs to be clear and exact, especially in the use of medical terminology and procedural instructions.

Nursing Aides and HHAs need a more limited amount of work-related English to perform their tasks; especially in communities where patients and families share their native language. The Department of Health Services, the certifying agency for NAs in California, requires either successful completion of a post-secondary English course or English as a Second Language (ESL) course as part of the certificate requirements. However, more training in English language usage and syntax is needed to successfully perform at the RN level.

Administration and Management

Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

Registered Nurses lead the other focus health care occupations in the knowledge of administration and management. Some of the tasks they do that reflect this knowledge, depending on their specialty, include the following:

- Participate in recruitment of nursing and allied staff
- Ensure patient-to-health care worker ratios are met and patient protocols followed
- Assign patients to rooms and allied health care workers to patients
- Monitor tasks and schedules of allied health care workers and support staff
- Manage research projects and personnel associated with study

Health Care Level Ratings:

RNs:	43
LVNs:	19
MAAs:	17
NAs:	2
HHAs:	21

To reemphasize, level ratings represent the *average* level of knowledge needed to perform the job. In the case of RNs, the management knowledge needed to perform the job depends on the size and type of health care setting.

Research and public health clinics may require less, and clinics, nursing homes, and hospital wards may require more knowledge of administration and management than the average level.

Level Benchmark Examples:

71	• Administering a large retirement and nursing care facility
61	• Monitoring progress of a project to ensure timely completion
35	• Planning an effective staff meeting
25	• Signing a pay voucher
14	• Requires knowledge of basic business and management principles and processes such as those required in small businesses with a single product or service
0	• Not relevant

The closest fit to the RN in this category is the HHA, likely due to the in-residence monitoring and time management involved without direct supervision; however, none of the focus occupations require a knowledge level that would put them in a “Good Fit” designation with RNs.

Law and Government

Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.

Health Care Level Ratings:

RNs:	43
LVNs:	12*
MAs:	36 Good Fit
NAs:	29 Good Fit
HHAs:	9*

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

- | | |
|----|---|
| 57 | • Lobbying for political support of a new bill |
| 52 | • Preparing documents and title papers for the purchase of a house |
| 28 | • Registering to vote in a national election |
| 14 | • Requires knowledge of basic rights, laws, and political processes |
| 0 | • Not relevant |

Registered Nurses are required to know and understand law in virtually every area of health care, including long-term care, home health agencies, and private acute care facilities. A few of the more pertinent regulatory bodies of law that RNs need to know cover the California Code of Regulations, the U.S. Code of Federal Regulations, and the California Health and Safety Code.

It is the responsibility of RNs to monitor other health care workers to ensure laws and codes are being followed. In their daily responsibilities, RNs not only must consider loss-of-life, but also loss of license.

The nearest fit to RNs in this knowledge category is the MA, with a 7-point gap and a “Good Fit” rating. Nursing Aides also show a “Good Fit” rating as analyzed in the O*NET system. Authors of this study believe the O*NET ratings for LVNs (12) and HHAs (9) are questionable and belong closer to the rating assigned to NAs. All focus health care workers must know legal restrictions on what procedures or medications they can and cannot give to patients, as well as what information they are prohibited from releasing.

**Best overall
knowledge fit:
LVNs and MAs**

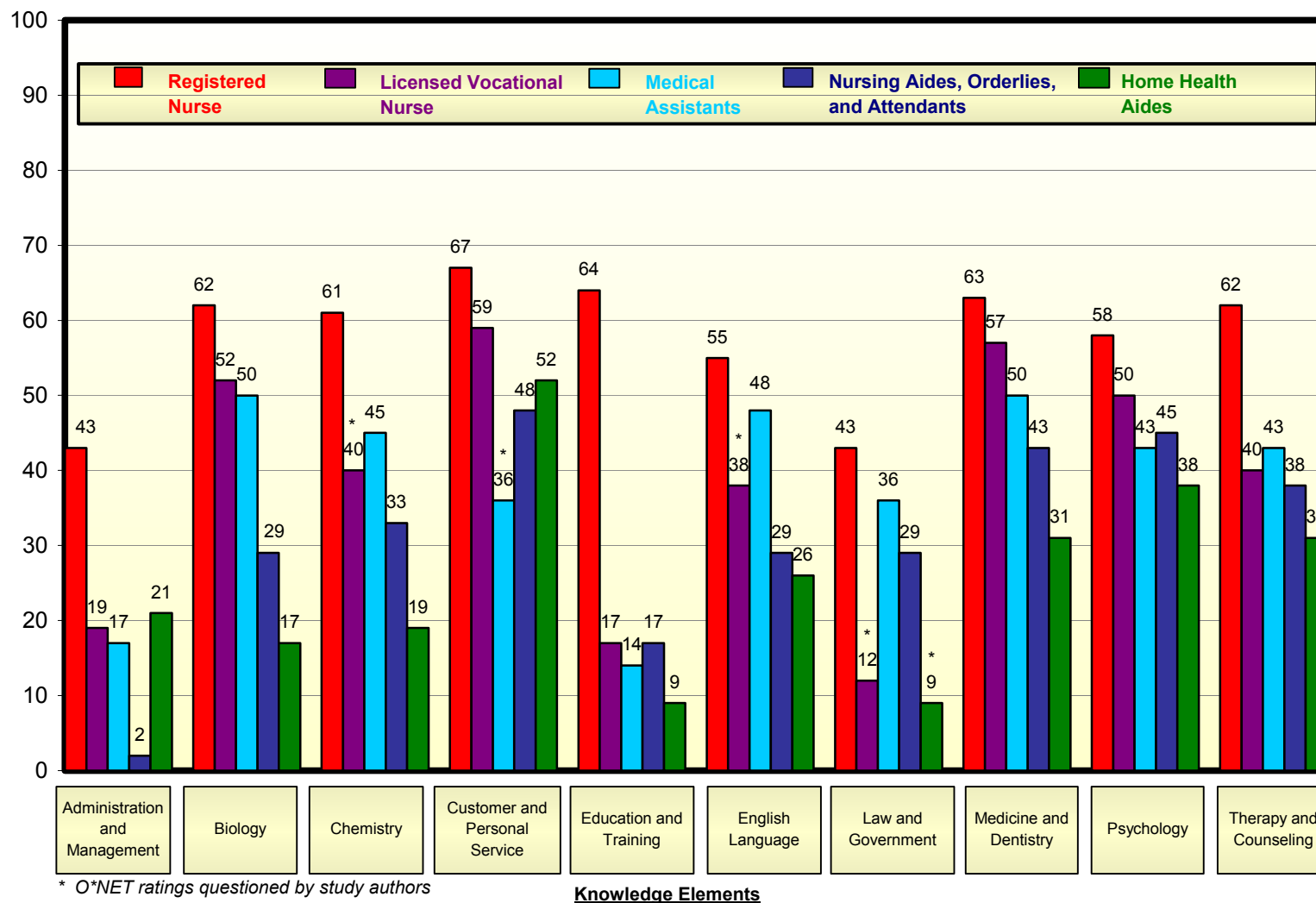
Medical Assistants and LVNs who can demonstrate knowledge in training, psychology, management, and nursing law, either gained through formal education or experientially, will be the better candidates to consider for bridging programs.

The most notable gaps between RNs and the four health care occupations are in the following areas:

- Education and Training
- Therapy and Counseling
- Chemistry
- Administration and Management

Many written assessments, such as the Scholastic Aptitude Test (SAT) Subject Exams, measure knowledge in a particular subject, as well as the individual's ability to apply that knowledge. Candidates for bridging programs should be interviewed, expertise observed, and questions posed to assess the individual's knowledge and ability to apply it to the RN position.

EXHIBIT 7.2 - Registered Nurse Top Knowledges -- How Others in Health Care Compare



¹ U.S. Department of Labor, *Dictionary of Occupational Titles*, Vol. 1, 4th Edition, 1991.

² Fleishman, E.A., *Fleishman-Job Analysis Survey*; PaloAlto, CA, Consulting Psychologists Press, 1992.

³ U.S. Department of Labor, *Skills and Tasks for Jobs – A SCANS Report for America 2000*, The Secretary's Commission on Achieving Necessary Skills (SCANS), 1994.

⁴ U.S. Department of Labor, *O*NET Content Model*, Vol. 1, 1995, p. 4-9.

⁵ EDD/LMID, *Projections of Employment 2000-2010*.

ABILITIES GAP ANALYSIS

Introduction

The term *ability* is commonly used in everyday language; however, its meaning is seldom defined or explained. Use of the term raises questions: In what sense does ability imply potential? Does ability apply only to a single instance, to some scenarios, or to all possible performances that use the ability? To what extent is an ability to be thought of as a “trait” of an individual?

The following section defines the top abilities needed to perform RN tasks and compares RN average ability levels to the levels required in other focus health care occupations. As was emphasized in the Skills section, this information is limited to the requirements of *occupations*, and does not reflect abilities of individual workers.

Ability is an enduring attribute

Abilities are defined by O*NET as “enduring attributes of an individual’s capabilities for performing a particular range of different tasks.”¹ They are regarded as traits that exhibit some degree of stability over relatively long periods of time. For instance, an individual interested in court reporting may never be able physically or cognitively to take dictation at the speed required for employment or graduation (e.g. wrist-finger speed and memorization abilities).

Abilities *can* develop over time and with exposure to multiple situations. However, abilities are the underlying characteristics of an individual, which generally determine how effectively or how well they *can* perform a job or set of tasks.

Types of abilities

A 1995 study funded by the U.S. Department of Labor and lead by the Management Research Institute, Inc. classified and defined four broad categories to further define abilities:²

- Cognitive – *Example*: Oral Expression
 - Psychomotor – *Example*: Manual Dexterity
 - Physical – *Example*: Trunk Strength
 - Sensory – *Example*: Near Vision
-

Distinction made between skill and ability

When first looking at O*NET abilities, several would appear redundant to skills elements. For instance, *written* and *oral comprehension* on the surface resembles the skills *reading comprehension* and *active listening*. This tendency to equate skills with abilities points to a need to make the distinction between the two domains.

**Distinction
made between
skill and ability
(continued)**

Whereas skills are more dependent on learning and represent the product of training in particular tasks, abilities are general traits of an individual that are inferred from observed performances by individuals across a range of different tasks.

For example, the development of a given skill, such as *speaking*, is partly predicated on the individual's possession of relevant underlying abilities – *oral expression*, *memorization*, and *speech clarity*. These underlying abilities are directly related to the rate of acquisition and final levels of performance that a person can achieve in particular skills.

EXHIBIT 8.1 – Top Ability Levels for Registered Nurses Compared to Focus Occupations

Ability		Registered Nurses	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies, and Attendants	Home Health Aides
1.	Oral Comprehension	75	54	55	55	49
2.	Oral Expression	73	51	57	52	49
3.	Written Comprehension	70	46	55	43	37
4.	Information Ordering	67	31	59	50	29
5.	Near Vision	67	37	57	52	26
6.	Problem Sensitivity	67	40	57	50	31
7.	Written Expression	67	37	52	33	20
8.	Inductive Reasoning	65	37	48	31	11
9.	Deductive Reasoning	63	23	38	29	23
10.	Memorization	62	20	52	48	14
11.	Speech Clarity	57	26	48	43	31

Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

ABILITIES GAP ANALYSIS

The following gap analyses compare RNs' top abilities and their required levels to those of the focus health care occupations. Ratings, benchmark examples, and definitions are from the DOL's O*NET database. Included for each ability is a brief definition, O*NET level rating on the 0-100 standard scale, and benchmark tasks that demonstrate various levels of ability.

Oral Comprehension

The ability to listen to and understand information and ideas presented through spoken words and sentences.

Health Care Level Ratings:

RNs:	75
LVNs:	54
MAs:	55
NAs:	55
HHAs:	49

Level Benchmark Examples:

78	• Understanding a lecture on advanced physics
54	• Understanding a coach's oral instructions for a sport
25	• Understanding a television commercial
0	• Not relevant

For RNs, the ability to understand the spoken word is crucial and is demonstrated in many tasks.

The RN must be able to listen to and understand a medical doctor or specialist's detailed instructions. Patients must also be heard and understood by the RN in order to get the care they need.

The complexity of the information they hear and need to understand puts RNs above the focus health care occupations in this ability. The focus occupations also demonstrate this ability to some extent when working with patients, family members, and co-workers. Each are rated about 20 points below the ability level for RNs, with HHAs showing the largest ability gap (26-points).

Oral Expression

The ability to communicate information and ideas in speaking so others will understand.

Health Care Level Ratings:

RNs:	73
LVNs:	51
MAs:	57
NAs:	52
HHAs:	49

Level Benchmark Examples:

91	• Explaining advanced principles of genetics to college freshmen
54	• Giving directions to a lost motorist
25	• Canceling newspaper delivery by phone
0	• Not relevant

Oral expression is a cognitive and verbal ability used by RNs when doing such tasks as the following:

- Giving verbal instructions to patients and families
- Speaking effectively with staff members and specialists in the medical community
- Speaking on topics such as health education or disease prevention

The nearest occupational fit to RN in oral expression is MA with a 16-point rating gap; however, no occupation in this focus group earns a “Good Fit” rating. Nursing Aides, LVNs, and HHAs ratings in O*NET show more marked gaps: 21, 22, and 24-points, respectively, and suggest the need for bridging program curricula that includes speech practice and theory.

Written Comprehension

The ability to read and understand information and ideas presented in writing.

Health Care Level Ratings:

RNs:	70
LVNs:	46
MAs:	55
NAs:	43
HHAs:	37

Level Benchmark Examples:

- | | |
|----|--|
| 91 | • Understanding an instruction book on repairing a missile guidance system |
| 60 | • Understanding an apartment lease |
| 24 | • Understanding signs on the highway |
| 0 | • Not relevant |

Registered Nurses must be able to quickly decipher and understand patient records and physician orders, interpret written test results, and understand highly technical articles in medical journals and case studies.

Written comprehension is similar to the skill of reading comprehension, with a further cognitive emphasis on the speed and ease of understanding. To illustrate, RNs and LVNs may both have the skill of comprehending written medical procedures, but RNs may need to grasp the content sooner and with more ease than LVNs.

The nearest ability fit to RNs for written comprehension is the MAs with a 15-point gap noted. This ability is also ranked among the top ten abilities needed for MAs.

Further behind are LVNs with a 24-point gap, NAs with a 27-point gap, and HHAs, who are rated 33 points below RNs in this category.

Information Ordering

The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).

Health Care Level Ratings:

RNs:	67
LVNs:	31*
MAs:	59 Good Fit
NAs:	50
HHAs:	29

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

88	• Assembling a nuclear warhead
68	• Mixing chemicals according to a specific sequence so they do not become toxic
34	• Following the correct steps to change a tire
0	• Not relevant

If medical protocols and government regulations are not followed exactly in the health care setting, the consequences can be life threatening to the patient as well as detrimental to the employer. The RN demonstrates the ability of information ordering in tasks such as:

- Directing patient medical plans in acute care
- Managing staff work schedules
- Administering stipulated emergency measures

Medical Assistants demonstrate a comparable level of ability of information ordering, as they maintain appointment schedules and prepare exam rooms according to exact procedures. This occupation is the nearest fit to RNs in the focus occupations, with an 8-point gap in ability level and a “Good Fit” rating.

Nursing Aides, who must follow strict schedules to make sure their patients receive basic care, show a 17-point gap. Licensed Vocational Nurses show a 36-point gap; however, the validity of this rating is questionable when one considers their daily adherence to protocol and time schedules. Home Health Aides show a 38-point gap between their job and the level of information ordering required for RN. This may be evident when one considers HHAs have more flexibility in scheduling patient visits or accomplishing tasks.

Near Vision

The ability to see details at close range (within a few feet of the observer).

Health Care Level Ratings:

RNs:	67	
LVNs:	37*	
MAs:	57	Good Fit
NAs:	52	
HHAs:	26	

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

88	• Detecting minor defects in a diamond
68	• Reading the fine print of a legal document
40	• Reading dials on the car dashboard
0	• Not relevant

The ability to see at close range is crucial for RNs in doing tasks such as the following:

- Observe patient's skin color, the dilation of pupils, and coordination
- Monitor patient on computerized equipment during surgery, at bedside, or from station
- Give prescription medications in proper dosage

The closest fit to RN in this ability category is MA, rated ten points lower on the level scale and earning a "Good Fit" rating. These workers frequently demonstrate the ability when they read small type on computerized patient and physician schedules, as well as thermometers and other instruments.

While O*NET rates LVNs at much lower levels than RNs, authors believe all focus occupations are comparable in level since they perform many of the same tasks as RNs that require near vision, such as:

- Measure and record vital signs
- Read instructions on charts, ointment tubes, or medications

Problem Sensitivity

The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.

Health Care Level Ratings:

RNs:	67
LVNs:	40*
MAAs:	57 Good Fit
NAs:	50
HHAs:	31*

* This O*NET rating is questioned by study authors

The ability to recognize symptoms or behavior as warning signs of a patient's well being is crucial to RNs. These observances include looking for possible reactions to medication, reading and interpreting computerized monitors during and after surgery or labor, and being sensitive to a patient's mood that could indicate pain, complications, or depression.

The nearest match to the RN's cognitive ability level is the MA, with a 10-point gap and a "Good Fit" rating. Medical Assistants are required to interview patients, either on the phone or in person, and must make necessary adjustments on surgery, office, and administrative calendars in other files as schedules change.

Larger gaps (36 and 27 points) appear when comparing HHAs and LVNs to RNs. Authors of this study believe these ratings by O*NET are too conservative and should be aligned more closely with NA ratings.

Level Benchmark Examples:

80	<ul style="list-style-type: none">Recognizing an illness at an early stage of a disease when there are only a few symptoms
55	<ul style="list-style-type: none">Recognizing from the mood of prisoners that a prison riot is likely to occur
0	<ul style="list-style-type: none">Not relevant

Written Expression

The ability to communicate information and ideas in writing so others will understand.

Health Care Level Ratings:

RNs:	67
LVNs:	37*
MAAs:	52
NAs:	33
HHAs:	20

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

92	• Writing an advanced economics textbook
54	• Writing a job recommendation for a subordinate
17	• Writing a note to remind someone to take something out of the freezer to thaw
0	• Not relevant

Registered Nurses must be able to write for a wide range of audiences and in a variety of writing styles. They record patients' medical information, as well as chronicle non-medical circumstances that may affect the quality of health care. The audience includes physicians and team members, as well as outside audiences such as insurance companies or researchers, who use the data for statistical studies. Registered Nurses also must write instructions for patients and families accurately and at a reading level understandable to the reader.

The closest fit to RN for this cognitive ability is MA, with a 15-point gap noted. This occupation requires writing down responses spoken by patients, as well as providing accurate written communications to physicians regarding changed, new, or cancelled appointments. Licensed Vocational Nurses, NAs, and HHAs who wish to move up to the RN level of nursing will need to demonstrate individual competency in writing, as the required level of written expression for their current occupations does not indicate a good fit.

Inductive Reasoning

The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).

Health Care Level Ratings:

RNs:	65
LVNs:	37*
MAs:	48
NAs:	31
HHAs:	11

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

85	• Diagnosing a disease using the results of many different lab tests
64	• Determining the prime suspect based on evidence gathered at a crime scene
21	• Determining clothing to wear based on the weather report
14	• Requires developing a simple basic rule to explain how two similar things are related
0	• Not relevant

Registered Nurses must analyze a variety of data from individual patient charts and combine this analysis with their own observations to accurately assess a patient's condition. Their judgment is a crucial element in a physician's ongoing diagnosis.

The cognitive ability of inductive reasoning is not required to the same extent for LVNs, who certainly gather data and make their own observations when caring for patients, but are not required to know some of the special circumstances that may preclude using routine care procedures.

For example, back care may seem elementary when caring for a patient, but it can be a complex task depending on other factors in the patient's condition. Routine back care involves making judgments based on condition of underlying tissue, attention to vulnerable areas, nutritional and fluid balance, manipulation of body parts, types of cleansing agents, use of lubricants or astringents, whether or not to massage, encouraging the client to move and turn, and therapeutic communication.³

These authors believe the O*NET ability rating for LVN is conservative and does not reflect tasks that demonstrate a higher level, such as determining whether a patient is having an adverse reaction to medication.

Deductive Reasoning

The ability to apply general rules to specific problems to produce answers that make sense.

Health Care Level Ratings:

RNs:	63
LVNs:	23*
MAAs:	38
NAs:	29
HHAs:	23

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

88	• Designing an aircraft wing using the principals of aerodynamics
70	• Deciding what factors to consider in selecting stocks
22	• Knowing that, due to the law of gravity, a stalled car can coast down the hill
0	• Not relevant

This cognitive ability is germane to the role of RN, who must mentally draw from tenets of nursing theory, medicine, law, physiology, and psychology to solve problems. Added to this ability is the capacity to determine if the hypothetical answer is appropriate to the individual situation.

For example, the RN may recommend drugs or other forms of treatment, such as physical therapy, inhalation therapy, or related therapeutic procedures.

The occupation with the nearest fit to the RN for this ability, according to O*NET, is the MA, who demonstrates deductive reasoning when doing such tasks as coordinating complex appointment schedules. However, none of the four health care occupations fall within the less than or equal to 14-point gap needed to earn a "Good Fit" designation in the ability of deductive reasoning. These gaps indicate two needs:

1. Design intake assessments to measure deductive reasoning levels of potential career ladder or bridging candidates in allied health positions
2. Include courses in bridging programs where exercises teach students to apply knowledge and skills to solve problems

Memorization

The ability to remember information such as words, numbers, pictures, and procedures.

Health Care Level Ratings:

RNs:	62
LVNs:	20*
MAAs:	52 Good Fit
NAs:	48 Good Fit
HHAs:	14

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

84	<ul style="list-style-type: none">Reciting the Gettysburg Address after studying it for 15 minutes
57	<ul style="list-style-type: none">Reciting the first names of the five people you just met
17	<ul style="list-style-type: none">Remembering the number on your bus to be sure you get back on the right one
14	<ul style="list-style-type: none">Requires remembering a small amount of simple material for a short period of time
0	<ul style="list-style-type: none">Not relevant

The level ratings reported at left show MAs and NAs constitute a “Good Fit” designation when compared to the RN, with LVNs and HHAs showing more pronounced gaps in memorization ability. However, LVN tasks such as the administration of medicines or dressing of wounds require the worker to remember a host of procedures as well as some theory. For this reason, the authors of this study question the O*NET level rating for LVN.

The importance of assessing memorization ability in potential career ladder candidates becomes clear when one considers that having a large context of remembered facts allows an individual to connect and expand ideas.⁴ In the case of RNs, they must accurately retain crucial information such as health regulations, acute-care procedures, government restrictions, and principles of psychology and physiology.

To facilitate better memorization, any bridging curriculum will need to have case-based reasoning, putting information into a meaningful context for students. The information health care workers need to know to work at the RN level will have to be couched in health care scenarios or in other ways so students can establish mental indices from old situations to new ones.

Speech Clarity

The ability to speak clearly so others can understand you.

Health Care Level Ratings:

RNs:	57	
LVNs:	26*	
MAs:	48	Good Fit
NAs:	43	Good Fit
HHAs:	31*	

* This O*NET rating is questioned by study authors

Level Benchmark Examples:

82	• Giving a lecture to a large audience
50	• Making announcements over the loud speaker at a sports event
20	• Calling the numbers in a bingo game
0	• Not relevant

Enunciation, the art of precisely and clearly speaking to others, is crucial to the RN job and to the welfare of patients.

Many medications, tools, and procedures sound similar, and an RN needs to make fine distinctions in meaning among words. Otherwise when a surgical nurse calls to request a *cantlie line* (a special line to separate the left and right lobes of the liver) and speaks indistinctly, she may get a *catling* (a long double-edged knife used in amputations).

Medical Assistants also demonstrate speech clarity on their jobs. They ask patients the reason for their visit and speak to the physicians and RNs about scheduling and patient issues during the day. Their required level is nine points lower than RN, a “Good Fit” designation. Nursing Aides also earn a “Good Fit” rating, since they speak with patients more than any other health care worker during the course of a shift. Home Health Aides and LVNs show larger (26, and 31-point) gaps, however, the ratings are considered conservative in the opinion of these authors.

**Best overall abilities
fit: MAs**

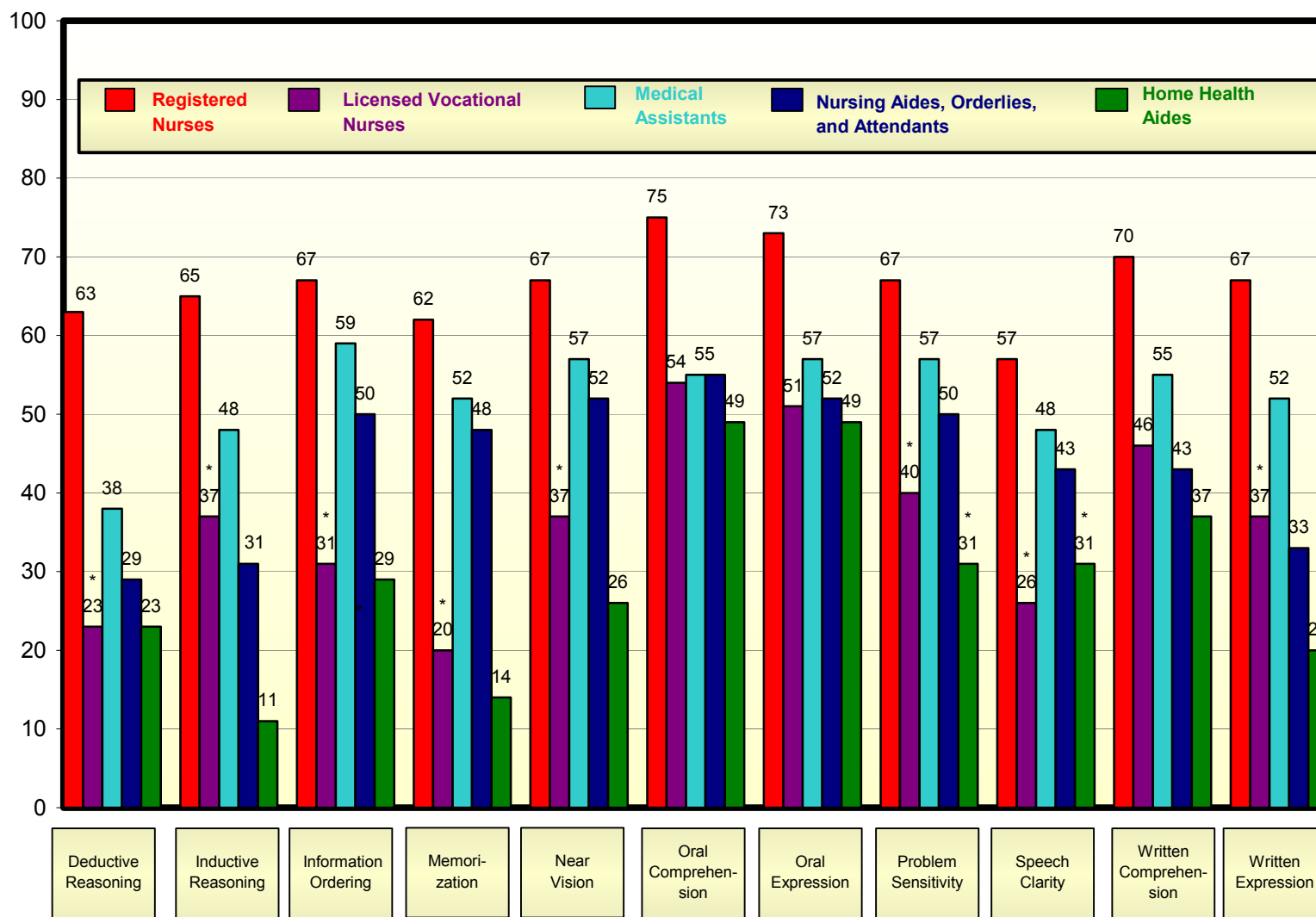
According to O*NET ratings, MAs show the best overall abilities fit compared to RN requirements, with an average gap of 14 points on the 0-100 standard scale. However, as discussed earlier, the validity of many O*NET abilities ratings for LVNs are questioned by these authors, particularly characteristics dealing with cognitive abilities.

The most notable ability gaps between RNs and the health care occupations in focus, keeping in mind that LVN ratings in O*NET are currently in review, appear in the following areas:

- Oral Comprehension
- Oral Expression
- Written Expression
- Written Comprehension
- Inductive Reasoning
- Deductive Reasoning

While overall fit comparisons can be useful in the general sense, it should be stressed that building and/or improving individual competency levels requires an industry-specific themed curriculum tailored to the ability desired.

EXHIBIT 8.2 - Registered Nurse Top Abilities -- How Others in Health Care Compare



* O*NET ratings questioned by study authors

Ability Elements

¹ Fleishman et al., *O*NET Content Model*, Management Research Institute, 1995, p.10-1.

² Ibid.

³ L. Conant, "Closing the Practice-theory Gap," *Nursing Outlook*, Vol. 15, No. 11, 1967, pp. 37-39.

⁴ John H. Lienhard, "The Engines of Our Ingenuity: Memorization," Episode 897; 2001. Retrieved from www.uh.edu/engines (September 2002).

WORK ACTIVITIES GAP ANALYSIS

Introduction

Any job description must consider the work that is to be done and the tasks people do. However, specific job tasks lack the generality needed to formulate a valid set of cross-job descriptors.

O*NET developed a list of work activities based on research that identified and categorized worker behaviors, which thus provided a plausible basis for cross-job comparisons.

What constitutes a work activity? The criteria O*NET uses for determining what construct would qualify as a work activity includes these qualities:

- Broad in scope and having applicability in a wide range of occupations
- Based on established job analysis research
- Characteristic of the underlying structure of work¹

Four families of work activities

Occupational analysts have attempted over the years to categorize work activities that could be applied to a wide range of occupations. Some models were based on stimulus/response factors derived from the foundation of psychology. Others were based on behaviorally oriented job analysis data, while still others on task-oriented job information.²

Building on previous research, O*NET developers identified and defined four “families” of work activities:

- Information Input – Where and how are the information and data gained that are needed to perform the job?
- Mental Processes – What processing, problem-solving, decision-making, and innovating activities are performed with job-relevant information?
- Work Output – What physical activities are performed, what equipment and vehicles are operated/controlled, and what complex/technical activities are accomplished as job output?
- Interacting with Others – What interactions with other persons or supervisory activities occur while performing the job?

From these categories, a lower order of 41 work activities were identified and described, with rating scales and anchor tasks defined.

EXHIBIT 9.1 – Top Work Activity Levels for Registered Nurses Compared to Focus Occupations

Work Activity	Registered Nurses	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies, and Attendants	Home Health Aides
1. Assisting and Caring for Others	80	79	74	71	76
2. Monitor Processes, Materials, or Surroundings	73	71	50	43	36
3. Updating and Using Relevant Knowledge	71	52	55	29	31
4. Communicating With Supervisors, Peers, or Subordinates	65	48	38	31	29
5. Establishing and Maintaining Interpersonal Relationships	63	52	55	57	52
6. Training and Teaching Others	62	21	17	14	14
7. Identifying Objects, Actions, and Events	59	57	45	43	31
8. Performing General Physical Activities	59	57	52	57	62
9. Communicating With Persons Outside Organization	59	45	43	29	31
10. Getting Information	58	52	52	31	33
11. Making Decisions and Solving Problems	57	43	29	21	29
12. Documenting/Recording Information	50	50	43	33	38

Source: O*NET Occupational Information Network 4.0

Standard Scale: 0-100

Introduction to work activity gap analysis

The following gap analysis compares RN top work activities and their level ratings to the ratings of the four health care occupations in focus: Medical Assistants, Licensed Vocational Nurses, Nursing Aides, and Home Health Aides. Ratings, examples, and definitions are from the U.S. DOL O*NET database. Included for each element is a brief definition of the work activity, O*NET level rating, as well as benchmark tasks that demonstrate various activity levels.

Ratings listed represent the average level of work activity required for each occupation, based on the standard scale of 0-100, with 0 indicating no level required and 100 indicating the highest level of work activity required to perform the job.

Assisting and Caring for Others

Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.

It is not surprising that assisting and caring for others is the top important work activity executed by all five occupations in this study, given the inherent nature of health care. While specific tasks may vary from occupation to occupation, no appreciable gap exists between RNs and any of the other focus health workers in this work activity.

This work activity was included by O*NET developers on the belief that this dimension of work will be increasingly important in the work place due to a number of factors:

Health Care Level Ratings:

RNs:	80	
LVNs:	79	Good Fit
MAAs:	74	Good Fit
NAs:	71	Good Fit
HHAs:	76	Good Fit

- The number of health care jobs continues to rise dramatically
- Child-care requirements for single-parent and dual career families have greatly increased
- Population demographics are shifting to contain a larger percentage of older persons who will need care and assistance³

Level Benchmark Examples:

92	• Caring for seriously injured persons in an emergency room
57	• Assisting a stranded traveler in finding lodging
21	• Helping a co-worker complete an assignment
0	• Not relevant

Monitor Processes, Materials, or Surroundings

Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

Health Care Level Ratings:

RNs:	73
LVNs:	71 Good Fit
MAAs:	50
NAs:	43
HHAs:	36

Level Benchmark Examples:

92	• Checking the status of a patient in critical medical care
57	• Watching chemical reactions in laboratory test tubes
21	• Watching progress in digging a ditch
0	• Not relevant

Registered Nurses monitor a variety of machines and devices, from heart monitors and IV bags to patient charts. They do this to detect changes in their patient's condition or to find out when a machine's task is completed. Outside of the patient and equipment monitoring required of RNs is the constant need to be aware of all circumstances in their work environment, be it a ward, surgery, or emergency room.

The LVN, to a similar degree, must also monitor machines, nursing processes, and the surroundings of his/her particular area, and meets the criteria of "Good Fit" designation when compared with RNs in this category.

Medical Assistants monitor calendars and schedules, some equipment, and inventory supplies; however, the extent of their monitoring activity is rated 23 points lower than the RN, with NAs showing a 30-point gap, and HHAs rated 37 points below the RN in this work activity.

Updating and Using Relevant Knowledge

Keeping up-to-date technically and applying new knowledge to your job.

This work activity involves staying current with the job's technical requirements. Although this activity may be relevant to all jobs, the level of the dimension required will vary considerably across jobs. In this case, RNs must keep up-to-date not only on rapidly changing medical processes, but also on legal issues, training methods, and managerial procedures.

Health Care Level Ratings:

RNs:	71
LVNs:	52
MA:	55
NA:	29
HHAs:	31

Due to the breadth and complexity of relevant knowledge needed by RNs to keep up-to-date and perform effectively, none of the focus health care occupations in this comparative study earned a "Good Fit" designation. The closest fit is the MA with a 16-point gap noted, followed by LVNs with a 19-point gap. Further behind were HHAs with a 40-point gap, and NAs trailing with a 42-point gap.

Level Benchmark Examples:

92	• Learning information related to a complex and rapidly changing technology
57	• Keeping up to date on changes in maintenance procedures for repairing sports cars
21	• Staying current on price changes in a small retail store
0	• Not relevant

Communicating With Supervisors, Peers, or Subordinates

Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.

Health Care Level Ratings:

RNs:	65
LVNs:	48
MAs:	38
NAs:	31
HHAs:	29

Level Benchmark Examples:

92	• Creating videotaped presentations to a company's internal policy
57	• Writing memos to other team members
21	• Communicating minimally with others
0	• Not relevant

The vast majority of jobs require communicating with others in the organization. However, jobs will differ regarding the level of that communication.

The RN not only listens to and provides information to staff persons at all levels, but must also write accurate technical reports and briefings to be used by other members of the medical team. The scope of the workers and the breadth of material relayed puts the RN at a considerably higher level of work activity needed than the focus health care occupations.

The nearest fit to the RN is the LVN, with a 17-point gap noted. Medical Assistants are given a level rating of 38, which represents a 27-point gap. Nursing Aides and HHAs perform this work activity at much lower extents, with 34-point and 36-point gaps, respectively.

Candidates for bridging programs should be assessed to see if they can demonstrate communication skills at a broader level than is required for their current job.

Establishing and Maintaining Interpersonal Relationships

Developing constructive and cooperative working relationships with others, and maintaining them over time.

Health Care Level Ratings:

RNs:	63	
LVNs:	52	Good Fit
MAs:	55	Good Fit
NAs:	57	Good Fit
HHAs:	52	Good Fit

Level Benchmark Examples:

- | | |
|----|--|
| 92 | • Working with and gaining cooperation from a group of multinational/multi-cultural executives, initially hostile to your organization |
| 57 | • Getting along well and maintaining good working relationships with almost all co-workers and clients |
| 21 | • Exchanging greetings with a co-worker |
| 0 | • Not relevant |

Health care workers recognize the importance of working together as a team in order to achieve the goals of patient care and recovery--a team that includes patients and family members. Performing this work activity can be difficult, given obstacles such as culturally diverse backgrounds, patient fears, and sometimes hostile or uncooperative family members.

All focus health care occupations earn a "Good Fit" rating when compared to level requirements for the RN occupation. The largest gaps are observed in the LVN and HHA occupations (11 points); however, these differences in level are still minor and would not indicate training needed in this area.

Training and Teaching Others

Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.

Health Care Level Ratings:

RNs:	62
LVNs:	21
MAs:	17
NAs:	14
HHAs:	14

Level Benchmark Examples:

92	• Developing and conducting training programs for a medical school
57	• Teaching a social sciences course to high school students
21	• Giving co-workers brief instructions on a simple procedural change
14	• Doing little training or educating of others
0	• Not relevant

Registered Nurses are rated considerably higher for this work activity than the other four focus health care workers. The higher rating reflects the fact that nurses teach to the following diverse audiences:

- School audiences, community organizations and others in the public health sector
- Nursing students in formal RN training programs
- RNs in continuing education or union-related training programs
- Staff members and patients who may need to learn a new medical procedure

The nearest fit to the RN is the LVN, who gives instructions to patients and subordinates as part of daily tasks. However, none of the focus health occupations earns a “Good Fit” designation, and there is strong indication that workers from all four occupations will need to be trained in teaching methods before they can perform RN duties in some areas, particularly in public health, education, or when procedural training is required.

Identifying Objects, Actions, and Events

Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Health Care Level Ratings:

RNs:	59
LVNs:	57 Good Fit
MAs:	45 Good Fit
NAs:	43
HHAs:	31

Level Benchmark Examples:

92	• Determining the reaction of a virus to a new drug
57	• Judging the acceptability of food products
21	• Testing an automobile transmission
0	• Not relevant

Registered Nurses and LVNs perform this activity when they look at, touch, or listen to patients. They do such job-specific tasks as feeling for pulse, looking at a suture or bandage, and listening for vital signs through a stethoscope. Both RNs and LVNs must track a patient's progress or decline during a hospital stay or treatment.

Licensed Vocational Nurses work at a comparable level to the RN in this category and earn a "Good Fit" designation. To a lesser degree MAs show a good fit, according to O*NET parameters. Further behind are NAs with a 16-point gap, and HHAs, with a 28-point gap.

Performing General Physical Activities

Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.

All focus health care occupations in this study require the ability to walk, climb, stoop, lift, and balance at comparable levels of performance. While some RNs (particularly those in research or public health sectors) are not required to perform physical activities at a significant level, RNs who work in such areas as emergency rooms, pediatric wards, or nursing home units must perform gross body movements such as the ones described in this work activity.

All focus health care occupations received the “Good Fit” designation for this work activity.

Health Care Level Ratings:

RNs:	59	
LVNs:	57	Good Fit
MAs:	52	Good Fit
NAs:	57	Good Fit
HHAs:	62	Good Fit

Level Benchmark Examples:

92	<ul style="list-style-type: none">• Climbing up and down poles to install electric wires
57	<ul style="list-style-type: none">• Caring for patients in a hospital
21	<ul style="list-style-type: none">• Walking to and from work stations in a small office
0	<ul style="list-style-type: none">• Not relevant

Communicating With Persons Outside Organization

Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.

Health Care Level Ratings:

RNs:	59
LVNs:	45 Good Fit
MAAs:	43
NAs:	29
HHAs:	31

Level Benchmark Examples:

92	• Presenting highly technical information to customers
57	• Making standard presentations about available services
21	• Having little contact with individuals outside the organization
0	• Not relevant

Registered Nurses are required to speak or correspond with such outside entities as contracted health care providers, patient families and, when working in a teaching or instructing role, audiences that may range from elementary school students to nurse trainees. Their information is often technical and must be distilled or paraphrased to fit the audience.

Patients and their families constitute the audience of outside persons with whom LVNs, NAs and HHAs must communicate. However, this activity is generally limited to oral communication. Medical Assistants certainly communicate with patients and may use electronic devices such as telephone and fax machines to communicate with patients. However, the content of their information is less technical and complex than the data conveyed by RNs, placing them at a lower level rating.

Of the four focus health care occupations, only the LVN earns a "Good Fit" designation in this work activity, which suggests workers in the other three occupations will need to include content that addresses this work activity in any bridging curriculum, plus assessments to measure individual abilities.

Getting Information

Observing, receiving, and otherwise obtaining information from all relevant sources.

An RN must gather all the information available regarding a patient's condition before making a solid assessment of needs or progress. Sources of these data include diagnostic test results, data from bedside charts, historical patient data from other health facilities, oral information from the patient and family, and technical information from medical texts or journals.

Health Care Level Ratings:

RNs:	58
LVNs:	52 Good Fit
MA:	52 Good Fit
NAs:	31
HHAs:	33

The LVN and MA are given a "Good Fit" as they need to obtain and observe information to perform their jobs, and each perform this activity task at a comparable level to the RN. Home Health Aides and NAs observe and talk to patients; however, their jobs do not require the gathering of information to the same extent as RNs, LVNs, or MAs.

Level Benchmark Examples:

92	• Reviewing the results of a large financial audit
57	• Interviewing witnesses at a crime scene
21	• Following a standard blueprint
0	• Not relevant

Making Decisions and Solving Problems

Analyzing information and evaluating results to choose the best solution and solve problems.

Health Care Level Ratings:

RNs:	57	Good Fit
LVNs:	43	
MAAs:	29	
NAs:	21	
HHAs:	29	

Level Benchmark Examples:

92	• Making the final decisions about a company's five-year strategic plan
57	• Deciding how to settle a moderate sized insurance claim
21	• Determining the meal selection for a cafeteria
0	• Not relevant

Within the health care setting, strict guidelines are in place as to what decisions can and cannot be made within individual occupations. The RN has the authority to recommend drugs or other forms of treatment, interpret diagnostic test results, and administer emergency measures when deviations from the standard practices are encountered on the job.

To a somewhat lesser extent, the LVN has authority to solve problems and make decisions, and performs this work activity at a comparable level, earning a "Good Fit" designation.

Medical Assistants, NAs, and HHAs show a more noticeable gap in this category, with 28-point, 36-point, and 28-point gaps, respectively. Individual workers in these focus health care jobs may have more experience in this work activity; however, this will need to be demonstrated within a formal assessment.

Documenting/Recording Information

Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

Health Care Level Ratings:

RNs:	50	
LVNs:	50	Good Fit
MA:	43	Good Fit
NA:	33	
HHAs:	38	Good Fit

Level Benchmark Examples:

92	• Maintaining information about the use of orbiting satellites for private industry communications
57	• Documenting the results of a major crime scene investigation
21	• Recording the weights of trucks using the highways
0	• Not relevant

The recording of information is a major task for RNs, LVNs, MAs, and HHAs who must correctly enter vital signs, test results, and other patient medical data onto charts and into databases. Registered Nurses who do research also transcribe and enter data from a number of sources as they conduct health studies or write papers.

Licensed Vocational Nurses, MAs, and HHAs fall within the “Good Fit” parameters of the O*NET fit formula and would not need much training in this area. Nursing Aides, who enter less complex data on charts and generally do not use electronic devices, would require more training in data applications in order to move towards the RN level in this work activity.

**Best overall Work
Activity fit: LVN**

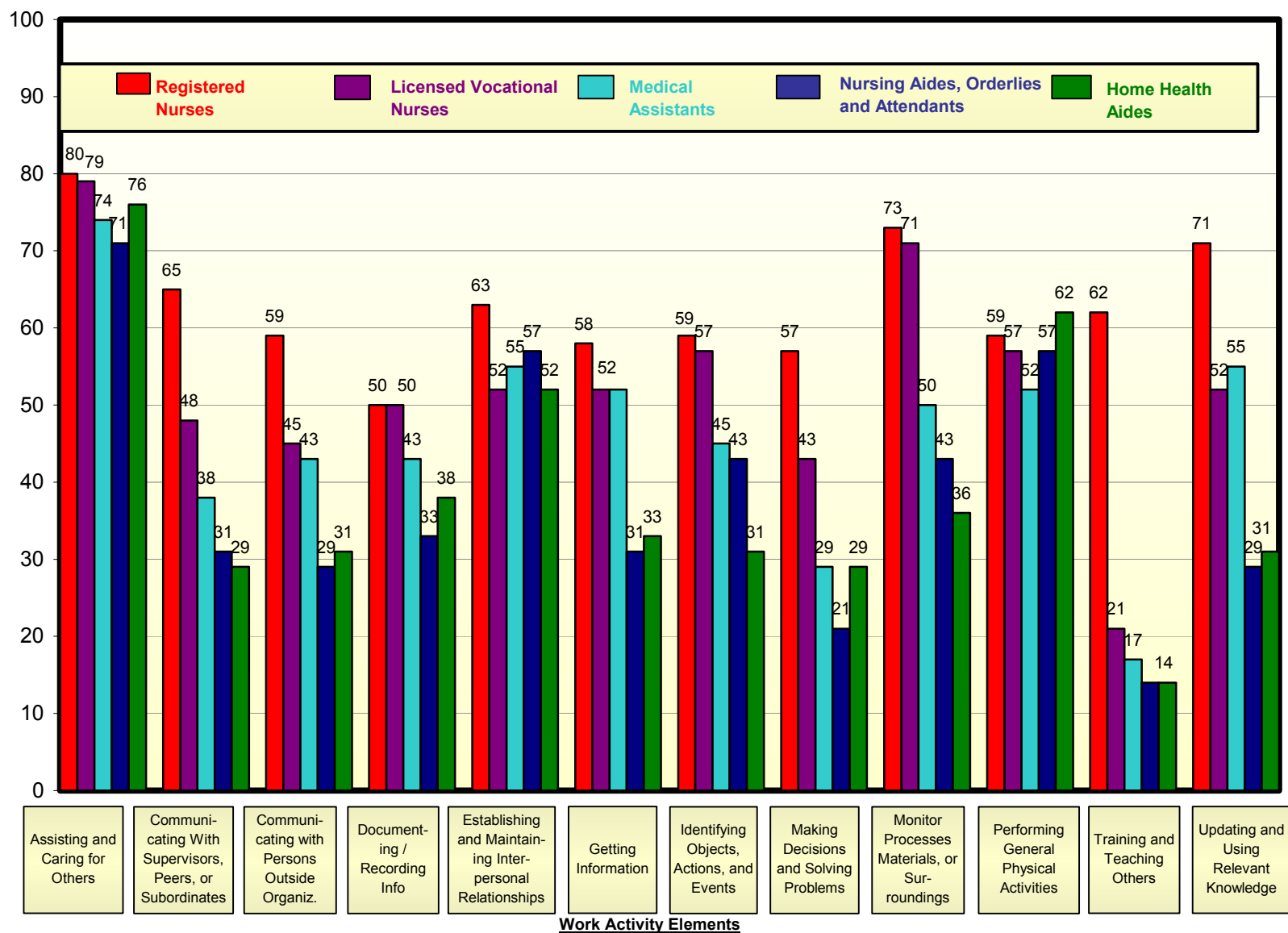
The best overall fit to the RN in the work activities category is the LVN with an 11-point gap. Element comparisons were limited to the top ten important and highest level requirements for the RN occupation. The second best fit is the MA with an average gap of 17 points.

The most notable gaps between RNs and the four health care occupations are in the following areas:

- Updating and Using Relevant Knowledge
- Communicating with Supervisors, Peers, or Subordinates
- Training and Teaching Others

While overall occupational fit comparisons can be useful in the general sense, it should be stressed that building and/or improving individual skills levels requires a bridging program tailored to the work activity and competency level desired.

Exhibit 9.2 - Registered Nurse Top Work Activities -- How Others in Health Care Compare



¹ Richard P. Jeanneret, et al., *O*NET Content Model*, U.S. Department of Labor, 1995, p. 6-3.

² Ibid., pp. 6-9 to 6-14.

³ Ibid., p. 6-61.

CAREER LADDER BEST PRACTICES

Introduction

Training providers designed and ran successful career ladder programs in the health care industry even before the health care industry began staggering under a nursing shortage and funding became available through sources such as the State Caregiver Training Initiative and the DOL. The direct collaboration of employers, unions, and school programs, while increasing, has a shorter history.

Below are examples of health care career ladder programs that have had measurable success.

Kaiser Hospital and SEIU

One of the more recent health care career ladder programs in California began in early 2001 as a partnership between health care giant Kaiser Permanente and its main union in Northern California, Health Care Workers Union Local 250.¹ Under the program, Kaiser Permanente Licensed Vocational Nurses (LVNs) are trained to become Registered Nurses. Housekeepers, clerks, and service employees are being trained as acute care nurse assistants, medical assistants, or unit assistants.

Kaiser and Local 250 jointly developed the training programs, directed by the Shirley Ware Education Center (SWEC). The process for admittance includes taking an “Interview and Assessment” test administered by SWEC.

Kaiser pays the bulk of training costs, and Local 250 absorbs the costs of identifying workers and providing ongoing tutoring or other training support as needed. A \$2.2 million U.S. Department of Labor training grant, obtained in partnership with the Workforce Investment Board of Contra Costa County helps support the program. In addition, the program is the recipient of Employment Training Panel (ETP) funds through *Career Ladders for the 21st Century*, a joint Employment Development Department and ETP initiative to advance low wage/skill workers to higher-paid jobs.

During the first year, tuition and books for all programs were provided either by Kaiser, an H1B grant, or a Chancellor's grant, through Contra Costa Community College. The grant provided uniforms and other equipment, as well as a portion of wages during training (Kaiser provided the rest of the wages for the training period). All enrollees received jobs. All classifications except for RN bid on their new job, and were accepted, prior to beginning the training.

Exhibit 10.1 on the following page illustrates the project's breadth of training programs, graduation rates, and former positions of trainees.

Exhibit 10.1 -- Kaiser Permanente/SEIU Local 250-Shirley Ware Education Center Partnership Training Grant

Class	Service Area/ Facilities	Number Enrolled	Number Graduated	Graduation Rate	Trainees' Former Positions	Dates & Location
Acute Care Nurse Assistant (ACNA)	North East Bay: Walnut Creek, Vallejo	21	20	95%	Housekeeping Aide, Appointment Clerk, File Clerk, Record Clerk, Teleservice Representative, Medical Assistant, Service Partner, Medical Record Analyst, Lead Service Partner, Appointment Clerk, PBX Operator & Healthcare Contact Specialist	January - March 2001: Contra Costa College
Acute Care Nurse Assistant (ACNA)	Capital Service Area: Sacramento, Roseville, South Sacramento	26	23	88%	Emergency Department Clerk, File Clerk, Appointment Clerk, Housekeeping Aide, Pharmacy Clerk, Teleservice Representative	June - August 2001: American River College
Acute Care Nurse Assistant (ACNA)	Capital Service Area: Sacramento, Roseville	21	21	100%	Emergency Department Clerk, File Clerk, Appointment Clerk, Housekeeping Aide, Teleservice Representative	March - May 2002: American River College
Acute Care Nurse Assistant Upgrade	East Bay: Oakland, Hayward, Richmond	22	18	81%	CNAs from long term care facilities represented by Local 250	May - July 2001: Contra Costa College
Unit Assistant	North East Bay: Walnut Creek, Vallejo	22	20	91%	Care Partner; Medical Assistant; Housekeeper; Cashier/Receptionist; File Clerk; Health Care Contact Specialist; Admitting Rep; Service Partner; Dietary Aide/Nutritionist	June - August 2001: Contra Costa College
Medical Assistant	South Bay and Golden Gate: Redwood City, South San Francisco	14	13	93%	Call Center; Health Information; Chart Room; Pharmacy; HIM; CBX/Telecom; Psychiatry; Radiology	June - August 2001: College of San Mateo
Medical Assistant	South Bay	18	18	100%	Housekeeper; Cashier/Receptionist; Health Care Contact Specialist; Service Partner; Clerk; Surgery Scheduler; Birth Recorder; Storekeeper	July- Sept. 2002: West Valley College
LVN to RN	Oakland, Walnut Creek, Antioch, Vallejo, Martinez, Redwood City, San Francisco, South San Francisco	15	14	100%	LVN	August 2001 - June 2002: Contra Costa, Gavilan, Los Medanos, Ohlone & Yuba Colleges January - December 2002: De Anza College
TOTALS		159	147			

Source: SEIU Local 250; January 2003.

**Pennsylvania
Union's 25-
year history of
career ladders**

Established 25 years ago, the Training and Upgrading Fund is a consortium of 60 major healthcare employers in southeastern Pennsylvania and the National Union of Hospital and Healthcare Employees, AFSCME, AFL-CIO (District 1199C).²

Its mission is to offer union members educational programs that promote their advancement and to train and place community members in health-care employment. Employer contributions fund union members' training, and public funds pay for training the unemployed, including welfare-to-work participants.

The heart of the training effort is the Breslin Learning Center in Philadelphia. It is a 37,000-square-foot facility housing 30 classrooms, three computer labs, a science lab, two full-service nursing suites, and a Licensed Practical Nurse (LPN) career ladder program that targets immigrants, minorities, and entry-level health-care workers—and one of the only union-sponsored professional nurse programs in the world. The Learning Center is open 14 hours a day, seven days a week. With a staff of 120, the Fund serves approximately 18,000 people a year, most of whom are former welfare recipients.

The union has worked to create an accessible career ladder. Nursing aides, for example, can become licensed practical nurses and double their salaries after one year of full-time training.

Because most of the Fund's participants work as well as attend classes, the part time program spans 18 months. Often, participants in the programs have barriers to academic success requiring remedial education or a high school diploma. The U.S. Department of Education pays for these classes and recently designated the Fund as a GED testing site. For nursing aides who do not qualify academically for LPN school, the Fund offers a pre-nursing curriculum.

The Fund is collaborating with the University of Pennsylvania School of Social Work on the project's research component. Information and client assessments were provided to the university researchers who discovered several factors that were statistically significant in identifying successful graduates who became employed. Two of the most important indicators were previous experience working with the elderly and previous job-training experience.

**Los Angeles
City College**

Los Angeles City College (LACC) recently received \$1 million to expand its nursing program to train NAs and home health care providers, with a further goal to build a career ladder in allied health to culminate in the Associate Degree Registered Nursing Program.

The LACC's nursing program has been developed in cooperation with a number of local hospitals including Childrens Hospital Los Angeles, Kaiser Permanente Medical Center, and Queen of Angels/Hollywood Presbyterian Hospital. The college and its partners recently were named the top "Industry Driven Regional Collaborative" by Ed>Net, the California Community Colleges Economic Development organization.

The funds were awarded through the California Job Skills Training Initiative. The LACC project was one of 22 projects throughout the state awarded nearly \$18 million in grants. These projects will provide job preparation and skill training for Californians who have multiple barriers to employment. The funds came from the Governor's Workforce Investment Act 15 percent discretionary funds.

**Sponsorship
programs help
State health
care workers
advance**

Joint programs between State of California mental hospitals and facilities, the California Association of Psychiatric Technicians (PTs), and local community colleges help entry-level health care workers train for higher classifications while they work, and help health care facilities retain their workers.

The State-funded option, operated in Porterville, Napa, Pomona, and Sonoma State hospitals, pays students a full-time salary to work 20 hours at a State mental health facility and go to school 20 hours each week. Training programs and paths include Certified NA, PT, and RN, and include mentoring and coaching sessions prior to exams.

According to Victoria O'Donnell, Director of Psychiatric Technicians at Napa State Hospital, the State-funded sponsorship option was initiated through the Department of Mental Health in the 1970's. Since its inception, Napa State Hospital alone has helped 112 employees complete training programs in health care at local community colleges, with almost every student choosing to work at the hospital following graduation.

The Porterville Department of Developmental Services has helped train and employed 27 PTs over the last several years with monies from this sponsorship program, and currently funds 60 students in the local PT training program. This will help ready the workforce for a new secure mental health facility due to open in 2005 in Coalinga, which will require 500 PTs when it opens its doors.

**Earn to Learn
Program at
Chico Hospital**

Enloe Hospital of Chico has a program for employees called “Earn to Learn,” which includes up to \$4,000 tuition reimbursement and loan forgiveness programs for Emergency Medical Technicians, NAs, LVNs, and other categories of workers to further education for hospital job categories, including Radiation Technicians, LVNs, and RNs.³

**California’s 30-
unit LVN-to-RN
Option**

The California Board of Nursing approved and instituted the 30-Unit Option Candidacy Program⁴ in 1969 to allow experienced LVNs a more rapid path to qualify for the RN State licensing exam. Records since Jan. 1, 1994 show a total of 351 LVNs taking advantage of the 30-Unit Option program and becoming licensed as RNs.

According to the California State Board of Vocational Nurses and Psychiatric Technician Examiners, all California colleges with RN training programs are required by law to offer the program “as space allows.”

The student is responsible for providing uniforms, laboratory fees, malpractice insurance, necessary equipment, and transportation to off-campus laboratory; start-up cost is approximately \$1,200.

There are distinct limitations to the 30-Unit path. Those who complete the course requirements and pass the state exam will not have an associate or baccalaureate degree, often a requirement by employers. Moreover, the program certificate is not recognized in many other state RN licensing agencies, a problem for those who wish to or must relocate.

¹ Kaiser Permanente News Release, “Taking on the Health Care Workforce Crisis,” July 19, 2000. Retrieved from www.kaiserpermanente.org/locations/california/newsroom/releases/ca071900.html (September 2002).

² James Ryan, *Building a Career Ladder in Health Care*, Spring '01. Retrieved from www.socialpolicy.org/recent_issues/SP01/sp-spring-01-ryan.html (September 2002).

³ Sherry D. Fox, RN, PhD, Director, School of Nursing, California State University, Chico.

⁴ Business and Professional Code; Nursing Practice Act, “Section 1429 Additional Preparation Required for Vocational Nurse to Take Examination for Licensure as Registered Nurse,” 1969.

SUMMARY AND RECOMMENDATIONS

Upward mobility

Clearly defined career paths or lattices would enhance the recruitment and retention of RNs and other health care workers. Potential health care workers need some assurance and incentive to invest their time, energy, and money into further education that leads to RN and other professional and technical positions in health care. As workers take foundation coursework for entry occupations, they need to see the variety of opportunities available over time.

Career growth opportunities may not always be immediately “up the ladder.” Workers already employed in the health care industry in administrative or operations support positions provide another source of workers who might be interested in lateral movement to direct care positions with appropriate training. They already possess an understanding of the industry culture and have a history of competency in their occupation.

Upward mobility programs are known under various labels--bridging programs, career ladders, career paths, career clusters, or career lattices. Regardless of name, once a structure and function for career development are established, participants can more easily see their own career potentials and begin planning their steps accordingly.

Employees often are not in a position to forego wages while returning to school. They must continue working while learning. Upward mobility programs that bring learning to the workplace or provide childcare encourage greater employee participation.

The O*NET's quantified analysis of occupational characteristics allows objective comparison between occupations. Comparison results can be an indicator of occupations suitable for career ladder development.

LVNs and MAs show best overall fit to RN

O*NET rating comparisons made between RNs and the focus health care occupations found LVNs the closest fit in skill, knowledge, and work activity levels required. The average overall gap between LVNs and RNs is 13 points on the 0-100 standard scale, with an average 18-point gap noted for MAs. Nursing Aides and HHAs, not surprisingly, revealed more marked overall gaps from RNs.

LVNs and MAs show best overall fit to RN (continued)

The table below specifies gaps in the broad job characteristic areas of skills, knowledge, and work activities, and gaps noted between RN and each of the four health care occupations in focus. Note the O*NET abilities section is not factored here due to the many O*NET ratings that are questioned by this study's authors.

EXHIBIT 11.1 – Average Level Gaps - RNs vs. Focus Occupations

Job Requirement Area	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies and Attendants	Home Health Aides
Average Skills Gap	-9	-17	-22	-21
Average Knowledge Gap	-19	-20	-27	-33
Average Work Activities Gap	-11	-17	-25	-25
Average Overall Gap	-13	-18	-25	-26

*Source: O*NET Occupational Information Network 4.0*

Ability ratings questioned

According to O*NET ratings, MAs show the closest overall fit to RNs in cognitive and physical abilities. However, based on the complexity of the tasks LVNs perform, these authors consider many of the O*NET ratings assigned to LVN abilities incongruently low. Thus, it is recommended that ability comparisons made between LVNs and RNs should use existing professional certifications and standards rather than O*NET ratings.

Exhibit 11.2 identifies “Good Fit” designations for the focus health care occupations as compared to required levels for RNs.

EXHIBIT 11.2 – “Good Fit” Summary: How Focus Occupations Compare to Registered Nurses

Occupational Characteristic <i>Across-the-board gaps are highlighted</i>	Licensed Vocational Nurses	Medical Assistants	Nursing Aides, Orderlies and Attendants	Home Health Aides
SKILLS				
Reading Comprehension	Good Fit			
Active Listening	Good Fit	Good Fit		
Speaking	Good Fit	Good Fit		
Service Orientation	Good Fit	Good Fit		Good Fit
Instructing				
Critical Thinking	Good Fit			
Monitoring	Good Fit			
Social Perceptiveness	Good Fit		Good Fit	
Coordination	Good Fit			
Writing	Good Fit	Good Fit		
KNOWLEDGE				
Customer and Personal Service	Good Fit	*		
Education and Training				
Medicine and Dentistry	Good Fit	Good Fit		
Biology	Good Fit	Good Fit		
Therapy and Counseling				
Chemistry	*			
Psychology	Good Fit		Good Fit	
English Language	*	Good Fit		
Administration and Management				
Law and Government	*	Good Fit	Good Fit	*
ABILITIES				
Oral Comprehension				
Oral Expression				
Written Comprehension				
Information Ordering	*	Good Fit		
Near Vision	*	Good Fit		
Problem Sensitivity	*	Good Fit		*
Written Expression	*			
Inductive Reasoning	*			
Deductive Reasoning	*			
Memorization	*	Good Fit	Good Fit	
Speech Clarity	*	Good Fit	Good Fit	*
WORK ACTIVITIES				
Assisting and Caring for Others	Good Fit	Good Fit	Good Fit	Good Fit
Monitor Processes, Materials, or Surroundings	Good Fit			
Updating and Using Relevant Knowledge				
Communicating with Supervisors, Peers, or Subordinates				
Establishing and Maintaining Interpersonal Relationships	Good Fit	Good Fit	Good Fit	Good Fit
Training and Teaching Others				
Identifying Objects, Actions, and Events	Good Fit	Good Fit		
Performing General Physical Activities	Good Fit	Good Fit	Good Fit	Good Fit
Communicating with Persons Outside Organization	Good Fit			
Getting Information	Good Fit	Good Fit		
Making Decisions and Solving Problems	Good Fit			
Documenting/Recording Information	Good Fit	Good Fit		Good Fit

* See page 4-4 for discussion of questionability of O*NET ratings.

Notable gaps between LVN and RN

The most notable disparities in performance levels between what RNs require and the average LVN possesses occur in the following areas:

Skills

- Instructing

Knowledge

- Education and Training
- Therapy and Counseling
- Administration and Management

Work Activities

- Updating and Using Relevant Knowledge
 - Training and Teaching Others
 - Communicating with Supervisors, Peers, or Subordinates
-

Assessment role

Assessment of applicants is critical; not only to ensure applicants meet academic requirements, but also to ensure their interests and work values are congruent with RN and LVN occupations. Nursing training is demanding physically, emotionally, and academically. If applicant interests and work values are inconsistent with the occupation, the result may be perfunctory performance or giving up too easily.

Applicants may have focused on nursing because of media attention to the nursing shortage. Media attention is helpful to recruitment efforts; however, applicant attraction to the occupation should be founded on the individual's own interests and work values.

Work Values

Registered Nurses and LVNs can expect to find fulfillment for their work values of *Relationships* and *Achievement*. Registered Nurses and LVNs will find only limited opportunity to fulfill the work values *Independence*, *Recognition*, or *Support*. *Working Conditions* in the nursing industry are demanding, and applicants should give considerable thought to their ability to adjust to the industry working conditions. Likewise, health care providers need to monitor employee perception of working conditions and implement processes for continual improvement of working conditions that would appeal to a wider audience.

**Assessment
role
(continued)**

Interests

The O*NET data suggests that the interests of *Social* and to a lesser degree *Realistic* are necessary for potential satisfying employment in any of the five occupations. If a student, job seeker, or employee has little interest in *Investigative* activities, the individual would not likely be satisfied in the LVN or RN occupations. That information could be a consideration for those persons planning to move up a career ladder

Educators and employers can use interest and work values assessment tools developed by the Department of Labor¹ to assist students and applicants make a compatible job-person match leading to employee retention and a healthier workplace. The cost of such assessment is small compared to the cost of recruitment and the wasted potential from training attrition.

As health care providers re-engineer the workplace tasks, they need to be attentive to retaining the essential values that attract workers to a health care occupation as well as enhancing the opportunity for other values to be more fully realized.

**Skills gap
analyses point
to career
ladder
feasibility**

Partners in a regional economy can use the same methods and data sources as this gap analysis to help determine the feasibility of proposed career ladders in their community.

- Area-specific labor market information, e.g., industrial and occupational projections and wages
- Regional Census population data
- Commute patterns and distances (available from Census data)
- Existing training programs

See *Careers Under Construction* for detailed procedures and other sources for developing a regional occupational career ladder.

**Beyond
O*NET--the
National Health
Care Skill
Standards**

O*NET provides generalized occupational information about skills, knowledge, and abilities. O*NET can point to occupations that appear closely related based upon shared characteristics. O*NET data, however, is not detailed enough for use as a curriculum development resource. The National Health Care Skill Standards Project² completed in 1996 by West Ed with funding from the U.S. Departments of Labor and Education, developed *core* skill standards that apply to workers across the entire health care industry as well as four additional skill *cluster standards*: therapeutic, diagnostic, informational, and environmental.

The purposes of the National Health Care Skill Standards are several:

- Provide foundation for worker preparation and performance.
- Strengthen the links between schools, workplace, and unions.
- Provide a common language across all levels of education and industry to enhance effective collaboration and linkage.

The National Health Care Skill Standards targeted pre-baccalaureate health service occupations and was not intended to replace the occupational skill standards set by professional and technical associations or government licensing and certification agencies. The skill standards would facilitate lateral and upward movement of workers within the industry on their path to occupation-specific technical and professional standards.

**Coordination,
collaboration,
and
certification**

The National Health Care Skill Standards and O*NET both provide common language and concepts to assist collaborators in building career paths, ladders, and lattices. Developing well-defined career paths within health services requires collaborative and coordinated efforts between many entities: health care service organizations, labor unions, educational facilities, professional associations, employment and training agencies, and government licensing, certifying, and policy-making agencies.

Collaboration among these groups and individuals is essential to address the challenges identified by the representatives of health services industry, education, labor and government that attended the LMID focus group:

- Remedial education for language, reading, and math deficiencies.
- Statewide standardization of nursing curriculum.

**Coordination,
collaboration,
and
certification
(continued)**

- Access to education—taking the classroom to the workplace.
 - Year-round training opportunities.
 - Articulation or coordination between education levels and specialties to alleviate unnecessary curriculum redundancy and accelerate pace of completion.
 - Standardized assessments to evaluate competencies achieved and those needing further training.
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Marketing

Health care recruiters face a paradoxical marketing and image challenge. The news media bring the public news of RN shortages, RN strikes, and legislation increasing the ratio of RNs to patients. Television series dramatize large hospitals and emergency rooms with the focus on physicians, surgeons, and to a lesser degree RNs. Where are the television shows about the NAs, the HHAs, and the numerous other allied health professions? These professions make the news when there are abuses, neglect, fines, and long-term care facility shutdowns. There are no television shows covering the day-to-day heroics and caring performed by persons in these occupations. A group of HHAs in New York wrote and starred in a musical called *HeartWork* in an effort to generate respect for the work they do.³

Many individuals are unaware of the range of positions available in health care. They know about the top jobs from television shows and may feel those occupations are beyond the reach of their abilities or resources. The health services industry needs to develop outreach programs and a media campaign to inform the public of the variety of occupations in health care and the opportunity to start at the bottom and educate oneself up the career ladder.

¹ Department of Labor, *O*NET Interest Profiler* and *O*NET Work Importance Profiler*, 2002. Retrieved from www.onetcenter.org/whatsnew.html (August 2002).

² Sri Ananda, Joan DaVanzo, *National Health Care Skill Standards*, FarWest Laboratories, 1995. Retrieved from www.wested.org/cs/wew/view/rs/136 (October 2001).

³ Paraprofessional Healthcare Institute, *HeartWork*, National Clearinghouse on the Direct Care Workforce, 2001. Reported on National Public Radio's *Marketplace*, May 15, 2001.

